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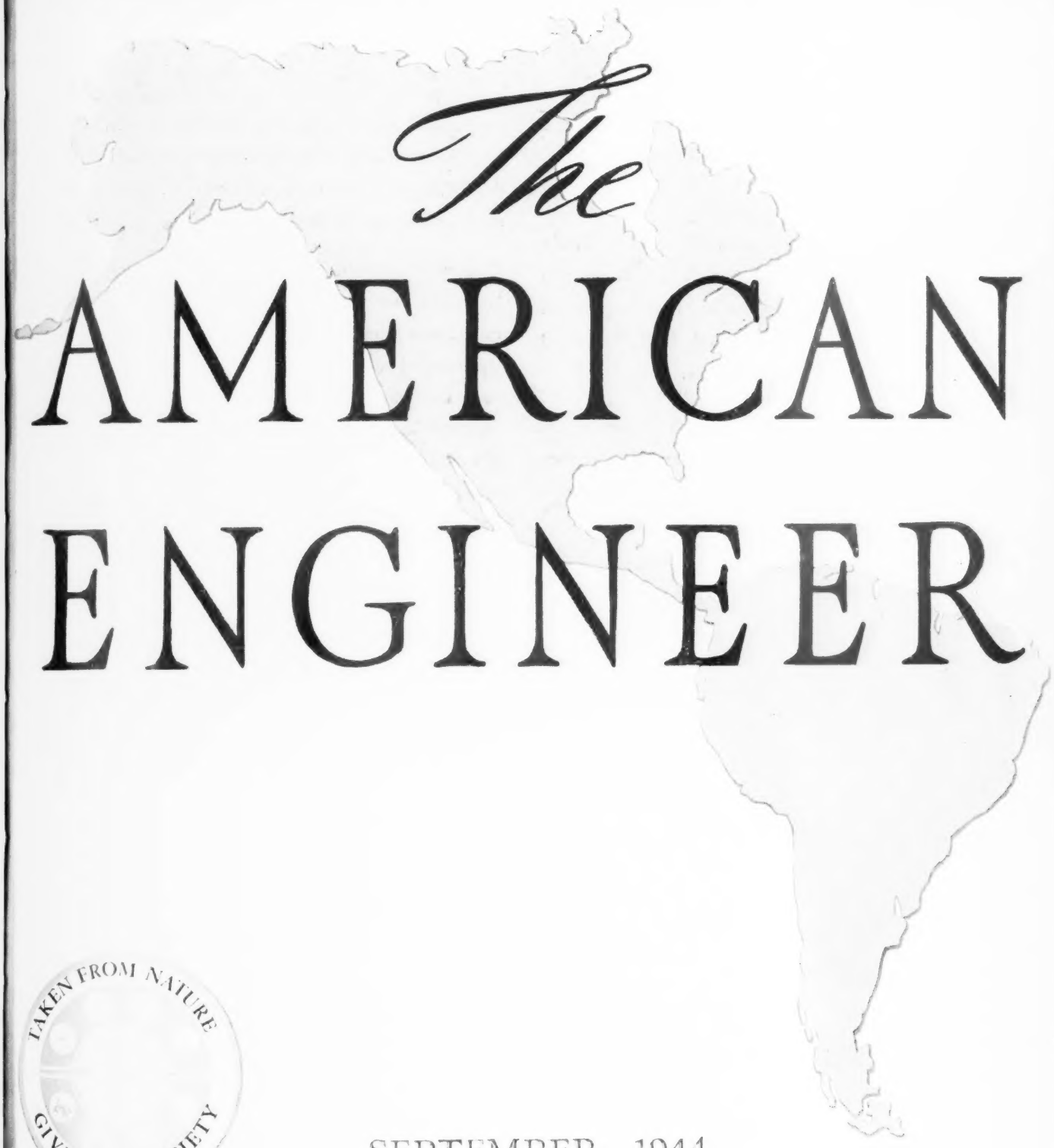
The AMERICAN ENGINEER



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THE AMERICAN ENGINEER

VOLUME 14, NUMBER 9 SEPTEMBER, 1944

Published monthly in the interest of the American People and the Engineering Profession by the National Society of Professional Engineers

In This Issue—

PAGE

Officers—N.S.P.E.—Roster of State Societies 4

Editorial 5

PAPERS AND REPORTS
- Public Works Hearings 6
- Single Public Works Agency 8
- Professional Creed 9
- Salary Report of Interest 10

ITEMS OF GENERAL INTEREST
- Nominating Committee Report 12
- N.S.P.E. Board Meeting 12
- Canadian Notes 12
- British Columbia Reports 13
- What is a Profession 14
- Model Law Comment 14
- Metric System Urged 14

STATE AND SOCIETY ACTIVITIES
- Georgia 15
- Illinois 15
- Minnesota 15
- Missouri 18
- New York 19
- Ohio 20
- Oklahoma 21
- Rhode Island 21
- Texas 22

WHAT'S NEW 26

PROFESSIONAL DIRECTORY 29

Editorial, Advertising and Business Offices, 415 *Lexington Avenue, New York, N. Y.*

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Change of address on Form 3578 should be sent to Society Office, National Press Building, Washington, D. C.

Re-entered as second-class matter March 11, 1942, at the post office at New York, N. Y., under the Act of March 3, 1879.

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Neither The American Engineer nor the National Society of Professional Engineers assumes any responsibility for statements or opinions expressed by contributors whose names identify the source of same.

Subscription Rates

$1.00 a year, in advance, to members of the National Society of Professional Engineers and its affiliated Societies, $2.00 a year, in advance, to non-members in U. S. A. and its possessions and Canada and Mexico. Single copies, 25c Foreign $4 per year.

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Kindly report any errors or omissions to the Editor.

The American Engineer

APPEALS FOR EDITORIAL ASSISTANCE

Collaboration Is Urgent

As this issue of the American Engineer goes to press the Editor finds it necessary however distasteful, either to others or to himself, to appeal for assistance. The publication cannot be continued without collaboration.

Since its inception the magazine of the Professional Society has maintained its policy of refraining from entering the field of the technical bulletin. In so doing it has paralleled the aims and procedures of the Professional Engineering Society which confines its activities to professional, social and economic problems confronting the engineering profession. The publication has also constantly maintained its general format consisting of: prepared articles of general interest to the profession; selected current news items deemed of concern to the professional engineer throughout the country, and, an up-to-date reporting of state and chapter activities.

Preparation of each of the sections above referred to presents various problems. The greatest difficulty results from the dearth of material. This is particularly so in the case of prepared articles. At the present writing this lack of suitable material threatens the future appearance of the American Engineer. Unless assistance is forthcoming the publication cannot be continued. Neither this Editor nor any other lacking funds, assistants and editorial collaboration can produce a monthly magazine.

Twenty-five state organizations together with their chapters, resulting in hundreds of officers and directors, among which are so many able and forceful correspondents, surely should be able to produce ample editorial material even if collaboration were to be confined to the officers and directors noted. Unfortunately the required collaboration is not forthcoming. Appeals in the form of letters, telegrams and telephone calls are constantly being made. These are practically barren of results. Except for state news, in which Ohio sets an example unapproached by any other Society, the response to editorial appeal is practically nil. In all fairness it should be noted that since its affiliation the Minnesota Society has made some splendid contributions.

Action is imperative. Each State Society is herewith requested to contribute annually, through any method it may select, at least two individually prepared articles or discussions dealing with the professional, social or economic problems or aspirations of the engineer as a professional man and as a member of society. The privilege of exercising judgment as to publication must, of course, be accorded the Editor. However, there is reason to believe that few submissions would be rejected if the same conform to the policies of the American Engineer and the professional society movement. Such policies and proposals have been set forth on so many occasions that there is little justification for repetition. Contributors might be guided by noting the aims of the National Society as outlined in the September issue of 1936 by Past President Steinman and restated elsewhere in this issue.

This is an appeal to the officers and directors of N.S.P.E. as well as to those of state societies, chapters and members. Assistance must be forthcoming without delay if the American Engineer is to be continued as a messenger of the professional engineering movement.

N.S.P.E. is today the only strictly professional engineering society in the country. Likewise the several state professional engineering organizations are the only professional groups within their geographical boundaries. Neither the national technical nor the sectional society composed of other than licensed or registered engineers has any legal right to represent itself as a professional engineering society unless its membership is composed exclusively of persons legally authorized to term themselves professional engineers. An unlicensed or unregistered person cannot call himself a professional engineer without inviting legal action in practically all the states of the union. An organized group of unlicensed persons can be legally restrained from the use of the term professional engineer in connection with such group organization. A society containing other than licensed or registered practitioners is likewise inviting legal intervention and restraint within the confines of any state that requires registration if it uses the term, professional engineer, or professional engineering.

The unique position of N.S.P.E. and its associated state professional engineering societies is a responsibility as well as an opportunity. The continued publication of the American Engineer as a means of advising and informing both public and professional engineers is concededly a sine qua non of service to society and to the profession. Those entrusted with the conduct of affairs for national and state societies have a definite obligation to assist in its maintenance. The publication must not fail.

CONGRESSIONAL HEARINGS
ON POST WAR PUBLIC WORKS
SUB-COMMITTEE MEETING IN NEW YORK
HEARS REPRESENTATIVES OF VARIOUS GROUPS

HON. WALTER A. LYNCH, *Chairman Sub-Committee on Public Works H. R. Committee on Post War Planning*

On Thursday, July 27th and Friday, July 28th, the Sub-Committee on Public Works (Hon. Walter A. Lynch, Chairman) of the Special House of Representatives Committee on Post War Planning listened to the representations of Public Officials, Labor, Industry, Civic Leaders and Professional Groups. There was practical unanimity of opinion to the effect that federal appropriations would be necessary in order to provide required aid for state and local projects sufficient in magnitude to prevent mass unemployment immediately following the cessation of hostilities. Some members of the Committee appeared concerned over the question of raising federal monies. In replying to a question as to where federal funds were to come from Commissioner Robert Moses replied that if unemployment threatens tranquility the money will be found and quickly too. "If public works are not provided then some kind of Beveridge Plan will be."

While the Sub-Committee has been recalled to Washington, it is possible that hearings will be continued in various parts of the country. State Societies and Chapters are urged to contract their Congressmen and Senators and make known their wishes on this vital subject. The Sub-Committee consists of John E. Murdock, Arizona, Eugene Worley, Texas, John E. Fogarty, Rhode Island, Hamilton Fish, New York. B. Carroll Reece, Tennessee, Jesse P. Wolcott, Michigan, with Walter A. Lynch as Chairman. The latter has been a consistent supporter of a public works program.

Appended is the statement of the Editor of the American Engineer who appeared in behalf of the National Society of Professional Engineers:

Presentation By

Arthur V. Sheridan

Editor—The American Engineer
Past President—The National Society of Professional Engineers
Past President—The New York State Society of Professional Engineers
Commissioner—Public Works—Bronx, N. Y.

Permit me to say that while, as a public official, I have a close personal connection with the Post War Public Works Program of the City of New York, especially that of The Bronx, where a program in excess of $200,000,000 is presently being progressed, I am appearing here primarily in the role of an Engineer who, as Past President of the National Society of Professional Engineers, Past President of the New York State Society of Professional Engineers and as present Editor of the American Engineer, has had the occasion and opportunity to observe and review the subject of mass unemployment as it has been opinionated and substantiated for the past quarter of a century. It is upon such basis and in behalf of those who must execute public works that I ask your indulgence of my views.

Yesterday, Mayor LaGuardia in an able presentation outlined the proposals of the City of New York. To his views on public works, planning and economics generally, I would subscribe most heartily. In fact, one might rest his case on the Mayor's presentation, for few if any knows the subject better than he, were it not for a desire to broaden the picture. In one respect I would differ with the Mayor. While granting that New York City presents an unusual problem, I believe that Federal aid should come through the States. To do otherwise is to destroy the Federal, State and Municipal relationship essential to the maintenance of our republican form of government.

Using the City of New York as a basis, the data, procedure, problems and aspirations of the nation as a whole may be readily envisioned by realizing that from the standpoint of population New York City is a little more than 1/20 of the nation. Hence the problem, the program, and the cost thereof on a national basis might well be approximated as about twenty times that of New York. The Mayor stated that over a billion dollars worth of public works were in the planning and designing stage in New York. On this basis a program of at least $20,000,000,000, would be required for the nation. This is exclusive of private endeavor. $20,000,000,000 will provide employment at decent wage standards for some 6,000,000 to 7,000,000 persons for one year. On a basis of two years it will provide for from 3,000,000 to 3,500,000. If three or more years are required to execute the work the number will be decreased proportionately. In the opinion of the professional engineering societies that is not enough.

One hears constantly concerning the role private industry must play. Gentlemen, that is a consummation devoutly to be wished. As an ardent disciple of capitalism and free enterprise I wish it were more. Who is to guarantee that private industry will do anything, other than that which

is in the interest of its millions of unrelated, uncoordinated entities, large and small. There is no compulsion, nor should there be, except that of self interest plus a general sense of public responsibility, little understood or appreciated, judging by history, past and present.

A large corporation or even a large combination of corporations may propose a hundred million dollar program, but who will carry it through if its hopes or justification for such program do not promise a return or do not materialize as it is being carried out. A company may plan production for 1,000,000 cars a year but if it sells only 500,000 the first year or two what will happen? What would you gentlemen if owners, directors, officers or stockholders do under such conditions? This situation is multifold. Private industry may have such a market that its own interests will demand large expenditures. Let us hope so. But if not—what then? Can government rest its obligations to its citizens, above all its 12,000,000 veterans, on hopes that George will do the job? It must be borne in mind that private industry is not organized as a unit, nor should it be. With one or two exceptions, such as motion pictures and baseball, it has not even a leader, a president or a board of directors, let alone a so-called czar. Private industry is an unorganized collection of many human enterprises and like all things human has its share of good intentions as well as lost horizons and unfulfilled promises. It is the opinion of professional State Societies, composed of prominent engineers in private industry and public service alike that gov-

Few, if any, would contend that a large program of ernment must provide against contingencies.
public works must be carried out regardless of other considerations. Engineers believe that a large reservoir of planned public works should be made ready to be used to such extent as may be necessary to prevent widespread unemployment and its possible effect on our social, political and economic systems. Veterans and citizens generally will not be satisfied by explanations concerning the obligations of industry in preserving an existing order. Economic theories will not preserve an order. Changes, which few desire, may await the post war employment situation. Where employment is widespread there are few demands for change.

While reluctant to present data in the form of statistics for the reason that engineering economics do not, like the general theories of economists, permit reasoning from unproven premises, I would suggest that a reasonable insurance against mass unemployment would be something along the following lines:

1. $5,000,000,000. at once for plans.
2. $7,000,000,000.—$10,000,000,000. for the first year. (To be made available six months after peace.)
3. $15,000,000,000.—$20,000,000,000. for the 2nd year.
4. $15,000,000,000.—$20,000,000,000. for the 3rd year.
5. $10,000,000,000.—$ 7,000,000,000. for the 4th year.
6. $ 5,000,000,000.—$ 1,000,000,000. for the 5th year.

The appropriation of these sums does not mean expenditure. It is merely an insurance. The execution could be controlled and the work contracted or expanded to meet unemployment needs. Unused monies would remain in federal custody. The control would likewise remain in federal custody. A 50% grant while quite generally referred to as reasonable would, in my personal opinion, be too small for most cities, where a 50% ability to provide for unemployment is not present. I do not advocate help only to those who need it. All pay taxes. All have employment needs. All are entitled to the same treatment. The factor of time will resolve the most pressing problems. Schedule first those who need the most but do not eliminate any state or city. Under ordinary circumstances states and municipalities should finance their own works. Only interstate facilities merit federal help in normal times. But to assume that the post war will inaugurate normal times is to strain credulity. If there proves to be no need for post war public works postpone them—but do not leave the nation unprepared for a dangerous emergency.

Considerable has been said concerning the ability of the federal, state and municipal governments to finance post war public works programs. Information from states and cities throughout the country received monthly by the American Engineer indicates that the wish is father to the contention that any extensive program can be financed locally. Mayor LaGuardia is entirely correct in saying that practically no important city in the country can finance an adequate post war employment program. For political or other reasons many states wish it were so. But, gentlemen, post war employment is part of the war. The federal government calls the manpower for and finances the conduct of war. It must likewise finance, in a constantly decreasing amount, the aftermath. One hundred billions a year is being spent for war, and if the war were to continue for four years more it would still be spent. Surely a fraction of that amount can be spent to preserve the peace at home.

To my mind one of the greatest troubles with our economic system results from the inability of most of us to appreciate that wealth is not the bookkeeping, astronomical figures posted for budgets but rather the manpower and natural resources of the nation. Andrew Mellon, financier of great repute, along with many other economists and financial experts, contended that paying the adjusted compensation to soldiers of the last war (the miscalled "bonus") would bankrupt the nation. Who was right—the experts or the poor veterans who at best professed only a fundamental knowledge of what passes for economics. I cite this merely to indicate what poorly premised and consequently incorrect predictions so often emanate from professional economists, who are gradually recovering from the low estate into which the depression had plunged them as a result of a century of misdirected reasoning fraught with dogmatism.

The national debt has increased ten-fold since the great depression began. Is the nation one whit nearer bankruptcy than in 1932? To appropriate federal monies for postwar construction is an ephemeral event. It does not suggest a continuing policy any more than any war time

(*Continued on page* 25)

A Post War Opportunity

N. S. P. E. PROPOSALS FOR SINGLE AGENCY TO REGULATE FEDERAL PUBLIC WORKS RECEIVES CONSIDERABLE ENCOURAGEMENT FROM CONGRESSIONAL COMMITTEES

By Col. Walter A. Simpson
Past President—N.S.P.E.

COL. WALTER H. SIMPSON
Past President—N.S.P.E.

More than a year ago the writer reported to the Board of Directors of the National Society of Professional Engineers that the time was then opportune to intercede in a Bill then before the Congress and request that all Federal construction (other than that under the jurisdiction of the Corps of Engineers) be placed under one Department of the Government and that the Administrator of that Department be a Professional Engineer and preferably a member of the Cabinet. At the December 1943 meeting of the Board held in St. Louis a Resolution was passed stressing the position of the Society and urging such legislation.

The writer contacted the Committees then in charge of the Bills and, as a representative of the Society, on several occasions presented the Resolution. The Congress recessed before hearings were completed. When the Congress reconvened two new Bills appeared, Senate No. 1730 and House No. 5125 designed primarily to deal with the disposal of surplus Government property but which have since been amended to include the considerations in which we are interested.

The Senate Bill was introduced by Senators George and Murray and the House Bill by Congressman Colmer. They were referred to the "Military Affairs Committee" of the Senate and the "Committee on Expenditures in the Executive Departments" of the House of Representatives. The Resolution of the Society has been presented to both these Committees and the undersigned has been assured by some of the Members of the said committees that they will support the Society's views.

The Senate Bill under Title IV covers the Post War Governmental Construction Program. Lines 17 to 20 and 1 to 7 in the succeeding paragraph, if deleted, will accomplish the purpose of the Society. Also, in line 10 of this latter paragraph the words in brackets (not including housing) should be stricken out. If we can secure the passage of the legislation in the above suggested amended form, all construction will be placed under the control of the Federal Works Agency which has a competent Professional Engineer as its head.

The House Bill has not yet reached the stage where we can talk about definite proposals since the Bill as now written deals only with surplus property. However, Representative Colmer is holding hearings in various parts of the country and wherever these hearings are held someone should represent the Society calling attention to the Resolution passed at the December meeting and urging that the recommendation of the Society be incorporated in the final legislation. Such meeting was recently held in New York and Dr. Arthur V. Sheridan, Past President, appeared for the Society and it is hoped that he will publish an account of his activities in this connection. (see p.)

It behooves all Engineers to get behind this endeavor and see it through. If we work diligently and in a dignified manner, it can be done. An excellent approach would be for each State President to write to his Senators and Representatives in the name of the Society; but under no consideration should the members write individually or en masse as this approach has absolutely no effect on the Congress except to lower the prestige and status of the organization using such tactics. On the other hand a dignified approach will receive consideration.

A Post War Opportunity

Note: The legislative measures presently pending in the Senate are in tentative form and somewhat involved. Their publication prior to the accomplishment of Col. Simpson's aims would serve little purpose. So far as the Sub-Committee of the House of Representatives is concerned, it is largely a fact finding or investigating committee seeking information upon which to base legislation in final form for a postwar construction program. However, it provides an excellent opportunity to present correlated objectives of N.S.P.E.

Past President Simpson, whose long background of government service is of particular value in promoting the Professional Society's objective of the establishment of a Cabinet Office of Public Works, has kept in close contact with the trend of events in this direction and his hopeful

(*Continued on page* 25)

A Professional Creed

CARDINAL PRINCIPLES OF N. S. P. E. RESTATED

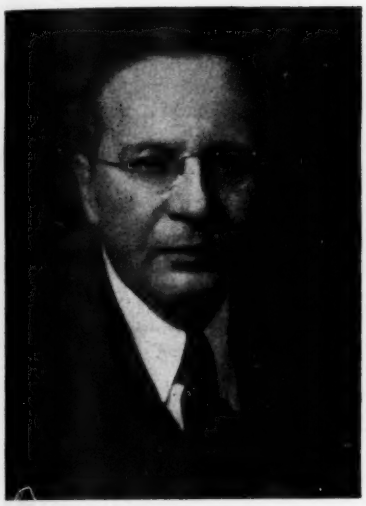
TWENTY-FIVE TENETS OF GUIDANCE

SET FORTH IN SEPTEMBER 1936 ISSUE OF

THE AMERICAN ENGINEER

AS APPLICABLE TODAY AS THEN

By President D. B. Steinman



D. B. STEINMAN
Past President. N. S. P. E.

In the midst of the conflict of opinion and confusion which has attended recent efforts of some engineering groups who profess to be seeking leadership for the profession as well as social and economic protection for its members, the statement of policy of the National Society of Professional Engineers as enunciated by President D. B. Steinman in 1936, the second year of the Society's existence, merits repetition. Its clarity and conciseness are indicative of the definitiveness of purpose of N.S.P.E. Its recognition of indispensable fundamentals of social and economic as well as professional aspirations offer evidence of the soundness of both purpose and organization which lies behind the professional engineering movement.

WE are members of the National Society of Professional Engineers because we believe in the following principles to which it is dedicated:

1. *Engineering is a Profession.* As members of that Profession, it is our moral obligation to strive for its advancement.

2. Engineering is a *learned* Profession. The highest educational prequalifications must be maintained for admission.

3. Engineering is *one* Profession. It should be held legally indivisible, and any move to divide it must be opposed.

4. *Before it can expect recognition, a Profession must be recognizable.* A clear dividing line must be established whereby the public may distinguish the Engineer from the non-engineer.

5. *Registration is the only means of establishing this demarcation.* Without Registration Laws, there is no way to stop the practice of Engineering and the appropriation of the designation Engineer by the unqualified and the unprofessional.

6. *Registration establishes Engineering as a legally defined and recognizable Profession.* It places the force and sanction of the law behind the efforts and aspirations of the Profession to maintain high standards of qualifications and practice.

7. *Registration is the most important agency for the advancement of the Profession, its standards and its standing.* Registration has been used effectively by other Professions as a powerful instrumentality for raising educational qualifications, ethical standards, professional status, and public recognition. Every effort should be devoted to extend Engineers' Registration legislation to the remaining States, and to improve existing Registration Laws to a uniform high standard.

8. *Protection of the Professional designation is as important as protection of practice.* A Profession is judged by the qualifications of all who use its name, and the public is confused and misled by the misappropriation of the title.

9. In any State in which an Engineers' Registration Law is established, *no man is an Engineer unless he is registered.* Existing exemptions in Registration Laws permit non-engineers, under certain conditions, to do engineering work, but such exemptions do not make any man an Engineer.

10. *The only agency that can admit a man into the Engineering Profession is the legally authorized State Board.* This responsibility cannot be delegated nor shared.

11. *No college can admit a man into the Engineering Profession by conferring a degree.* Additional qualifications are required for Professional status.

12. *Membership in an Engineering Society does not make a man an Engineer.* He should be an Engineer before he is admitted to membership. The National Society of Professional Engineers is the only organization in which all of the members are Engineers.

13. In addition to being defined, *a Profession must be integrated.* Technical societies are organized on the basis of *dividing* the Profession into branches and specialties. The National Society of Professional Engineers is organized on the principle of *uniting* all Engineers as members of one Profession.

14. *The technical problems of Civil, Mechanical, Electrical, Chemical and Mining Engineers are divergent, but the Professional problems are alike.* The National Society of Professional Engineers supplies the need of a nation-

(*Continued on page* 24)

SALARIES IN STATE EMPLOYMENT

REPORT OF THE OHIO COMMITTEE TO ITS BOARD OF TRUSTEES

CONTAINS DATA AND OPINIONS

USEFUL TO OTHER COMMITTEES

DEALING WITH FEES AND SALARIES

The following report and accompanying chart are reproduced in order that various other State Committees dealing with Fees and Salaries may have the benefit of the facts, findings and opinions of the Ohio Special Committee dealing exclusively with one phase of the salary problem.

Report of Committee on Salaries of Engineers in State Employment to the Board of Trustees of the Ohio Society of Professional Engineers

July 5, 1944

At the annual convention of The Ohio Society of Professional Engineers held Feb. 11, 1944, Resolution No. 3 was passed in which an appeal was directed to the Salary Study Commission, created by the Ninety-fifth General Assembly to consider adjustments in salaries paid to Engineers in State Employment. The Salary Study Commission, in answer to this resolution, requested The Board of Trustees of The Ohio Society of Professional Engineers to canvass all the State Highway Departments to determine prevailing rates of pay and report back their findings. In accordance with this request, Chairman Hale at the March 3, 1944, meeting of the Board of Trustees, announced three names on a new committee to make this survey. This new committee being O. C. Kohli, Chairman; R. N. Waid, and Fred W. Kimble, Secretary.

Soon afterward the committee met and discussed methods to be followed in gathering all the needed information. A simplified questionnaire was devised that would be brief and yet be sufficiently complete that a report made from it would supply the Salary Study Commission of the General Assembly with the information they desired. Attached is a copy of the letter of transmittal and questionnaire that was mailed to the executive heads of all the Highway Departments in the forty-eight states. They were mailed on March 27, 1944.

By April 30, 1944, replies had been received from thirty-six states, including Ohio. To the twelve states that had not replied a duplicate request was mailed which carried the following letter, in addition to the original letter of transmittal and this questionnaire:

"Dear Sir:

On March 27, 1944, we sent you the attached letter and questionnaire. Because we have had no reply we feel that they have not been delivered or possibly mislaid. Would you be so kind as to check this matter and if possible send us a reply?

Thank you for your attention to this request."

By June 5, 1944, six additional replies had been received, making the total number of states to answer forty-two.

The answers were not as complete as had been hoped for by the committee. The questionnaire asked that minimum, maximum and average salaries be shown for principal assistants to the headquarters staff and division staffs, also for personnel employed directly on work projects. In most cases minimum and maximum salaries were given. In some cases, in addition to minimum and maximum, average salaries were given. In this group the mid point in the salary range was reported, except in a few instances where actual average salaries were reported. Where actual average salaries were reported, these were, in all instances, above the mid point in the salary range shown. From these reports it is reasonable to assume that the average salary for any state is above the mid point in the salary range. In making comparisons with other states, average salaries were used where reported and mid points in salary range were used where no average was given. The actual averages paid in Ohio were used in every case. By following such a method this committee feels that it has leaned over backward in order to present comparisons that are fair.

In Part II of the questionnaire devoted to the headquarters staff, three positions held true for most of the Highway Departments reporting. They were: Chief Engineer of Construction, Chief Engineer of Maintenance and Chief Engineer of Bridges. Because of variations in the titles of others in the headquarters staff of the states reporting, it was thought unwise to try to establish any comparisons. Therefore, only the positions of Chief Engineer of Construction, Maintenance and Bridges were used. For these positions salary ranges were reported in about one-half of the states and for the other half fixed salaries. To make comparisons the mid point in the salary range was used for those states reporting only a minimum and maximum and the fixed salary is used where it is reported.

Part III of the questionnaire is devoted to District or Division Personnel. It is to be noted that Division Engineers and District Engineers are synonymous. Where the actual salaries paid are stated, these were used in making comparisons, and when a range was given the mid point was used.

The questionnaire also asked for the 1943 expenditure in each state and the total 1943 mileage constructed by types. Although the annual expenditure in the various Highway Departments is a means of establishing com-

parisons, in many instances a sizable portion of these expenditures are used to retire indebtedness. This is not true in Ohio, as all business is conducted on a cash basis.

Ohio is compared to other states as follows: Neighboring states, states of a comparable size and to an average of all states answering the questionnaire. Neighboring states comprise Pennsylvania, West Virginia, Kentucky, Indiana, and Michigan. States of a comparable size are: New York, Pennsylvania, Illinois, California and Texas. Mileage on the state system and the money spent in 1943 were bases for establishing comparable size states. It is to be noted that New York did not answer our query and only the salary of the Director was used in the comparison. The Highway Director's salary for the State of New York was taken from the Official Roster of Federal, State and County Officers for 1943-1944, compiled by Edward J. Hummel, Secretary of the State of Ohio.

In reporting money spent for 1943 some states supplied the information that normally they spend between certain limits, and reported no actual expenditure for 1943. Under mileage types built in 1943 a few states reported no construction, while others reported a limited program of necessary access roads, giving no mileage. In drawing comparisons mileage of all types built were totaled and this figure was used in graphs. The mileage built in Louisiana in 1943 was not used because, as reported, it totals the entire state mileage of improved highways, which is obviously incorrect.

All data given on the questionnaires is tabulated on Sheet No. 1 of this report. From this tabulation graphical sheet No. 2 was compiled, making comparisons as indicated. In Every Case rates of pay exceed those paid in Ohio for similar services except for the positions of Party-Chief and Instrument-man. Notice should be taken of the fact that more than 50% of the states reporting have rates of pay that exceed those in Ohio. Since only five of the forty-eight states have a Highway Department comparable in size to that in Ohio, the information gathered in this survey clearly demonstrates the need for revision of salaries paid Engineers in the Ohio Highway Department. In the information submitted by Massachusetts, Minnesota, and California, it is stated that the salaries reported are basic and do not include temporary increases that are in effect for the duration. The comparisons made in attached graphical Sheet No. 2 are self-explanatory and we of the Committee making this survey believe some general conclusions can be drawn.

(1) That the salaries of the Director and Department Heads of the Ohio Highway Department have been fixed at the present level for many years and their salaries have not been increased with the increase in their duties, obligations and responsibilities.

(2) That today the responsibility of directing the business of the Ohio Department of Highways compares to that of the larger states in the nation.

(3) That from Director down to Party Chief the salary paid to the Engineers in Ohio is below that paid in neighboring states, states of comparable size, and for the average of the 41 states reporting.

(4) That since Ohio is one of the foremost states in the nation in the Highway industry, the Engineers and Engineering aids that make this standing possible should be paid salaries commensurate with this standing.

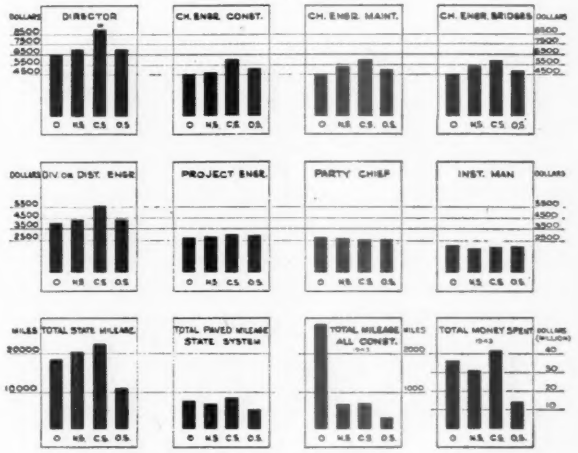
As an interesting side light, there is attached hereto a summary of the cost analysis of time worked and money earned on a typical present day Ohio Highway Project. This record was not compiled to be a part of this report, but was made by the Engineer whose name is signed to the report, to show the standing of our Project Engineer with respect to that of others employed on the project. To be in responsible charge of a construction program of this nature require an individual of skilled engineering training. The engineer must be an administrator and an arbiter in addition to being a capable engineer who is able to visualize the completed work from plans and drawings and be able to perform each part of the work required in the proper order to fit into the completed whole. Yet in the pay received for his services this engineer does not have the standing equal to a skilled workman. Furthermore, this engineer directs all parts of the work. The workmen look to him for instruction so as to know where and how their individual efforts are to be applied. It seems only just, proper, and wise that our engineers on the projects should occupy a position in pay that will elevate them to at least the level of the administrative help employed by the contractor.

Respectfully submitted,

Committee: O. C. Kohli, Chairman
R. N. Waid
F. W. Kimble, Secretary

SHEET Nº 2

SURVEY OF SALARIES OF ENGINEERS IN STATE EMPLOYMENT
(DEPARTMENT OF HIGHWAYS)
JUNE 1944



AVERAGE ANNUAL SALARIES

	DIRECTOR	CH. ENGR. CONST.	CH. ENGR. MAINT.	CH. ENGR. BRIDGES	DIV. OR DIST. ENGR.	PROJ. ENGR.	PARTY CHIEF	INST. MAN
OHIO	$6500	4800	4500	4800	4000	$2880	$2535	$1830
NEIGHBORING STATES	7000	5100	5312	5442	4438	2837	2807	1908
COMPARABLE STATES	6930	6102	6110	5932	5515	3006	2947	2016
ALL OTHER STATES	6982	5123	4957	4887	4340	2920	2582	1966

* NEW YORK IS INCLUDED FOR DIRECTOR (ONLY) IN COMPARABLE SIZE STATES
NEW YORK DID NOT ANSWER THIS QUESTIONNAIRE.

LEGEND

N.S. ABBREVIATION NEIGHBORING STATES, PENN., W.VA., KY., IND. & MICH.
C.S. ABBREVIATION COMPARABLE SIZE STATES, TEXAS, PENN., ILL. & CALIF.
O.S. ABBREVIATION AVERAGE, ALL OTHER STATES, 6 OMITTED, TENNESSEE, VIRGINIA, RHODE ISLAND, NEW YORK, & IOWA NOT INCLUDED
O ABBREVIATION OHIO

SURVEY MADE BY COMMITTEE ON SALARIES OF ENGINEERS IN STATE EMPLOYMENT
OHIO SOCIETY OF PROFESSIONAL ENGINEERS

Submitted as:

ITEMS OF GENERAL INTEREST

Nominating Committee

Submits Report

The Nominating Committee has presented its recommendations for the year 1945. The several state societies have ratified the recommendations for which approval is required. Following are the nominations:

For President—Harry E. Nold, Columbus, Ohio
For Treasurer—Leo H. Cleary, Washington, D. C.
For Vice-President—
Northeastern Zone—Ritcher Lawrie, Jr., Pennsylvania
Central Zone—Bruce Williams, Missouri
Southern Zone—A. F. Mitchell, Texas
Western Zone—William L. Thrailkill, Washington

President Nold, who had previously declined to accept renomination, was finally persuaded to do so when Frederick H. Zurmuhlen, the only Vice President who succeeded himself in 1944, whom the Committee had designated for President, found it impossible to fulfill the duties of the office at the present time because of certain 1945 business commitments. The declination of Vice President Zurmuhlen is reproduced herewith.

Frederick H. Zurmuhlen
Consulting Engineer & Architect
14 East 47th Street
New York, N. Y.

August 11, 1944

Mr. Alex Van Praag, Chairman Nominating Committee
National Society of Professional Engineers
447 Standard Office Building
Decatur, Illinois

Dear Engineer:

It is with deep regret that I find it necessary to address this letter to you and the other members of the Nominating Committee. I have recently, very unexpectedly, taken on some additional responsibilities which, I expect, will necessitate considerable travel in South America. For this reason I would be doing the Society, as well as myself, an injustice if I were to permit my name to be voted upon for President for the year 1945. My interest in the National Society and the professional movement is considerable and I would not be satisfied to be the President in name only and I, therefore, ask that your Committee accept my declination.

I cannot help but hope that I will be in a position to serve at some future date to fill an ambition that I have had and fostered for many years.

With kindest personal regards to you and each of your Committee, I am

Sincerely yours,
Frederick H. Zurmuhlen

N. S. P. E. Board Meeting

Lexington, Ky.—September 15th and 16th, 1944

The third quarterly meeting of the Board of Directors will be held on Friday, September 15th and Saturday, September 16th, at the Hotel Lafayette in Lexington, Kentucky. State Societies are urged to present matters for consideration at the earliest possible date. Kindly address the National Secretary at Washington, D. C.

Canadian Notes

The Engineer's Viewpoint

From the Graduate Chronicle, which for the moment speaks for the Professional Engineers of British Columbia as well as for the Alumni Association of the University of British Columbia, the following rather forceful expression of opinion has been excerpted:

When a man relinquishes control of his own affairs he naturally and automatically becomes controlled by others. In time he is dominated by others. He has lost his individuality. He becomes only a part of a machine. He has lost his freedom. The road to freedom is paved with individual initiative; with individual responsibility.

Today the tendency throughout the world, and, we believe, particularly in Canada, is to take from men that individual responsibility and place it with some central body of authority. We find men abrogating their rights to Union Officials. We see small business under the thumb (and usually a very heavy thumb) of a huge octopus. In the realm of big business we have world-wide cartels. But what appears to be the most dangerous feature of this modern trend is that it has crept into our body politic.

Under the disguise of efficiency or with the excuse of wartime emergency, the Canadian provinces are slowly but surely handing their rights to the Federal Government at Ottawa. Certain interests are openly advocating more centralized control in the government of this Dominion. Their chief argument is that there should be a more uniformity in the laws of the nine provinces. But uniformity should not of necessity mean central control. In fact, there is no uniformity of natural conditions in this vast country, and the idea of uniformity, therefore, should be tempered with the local conditions and local needs. Only the various provinces themselves can successfully cope with these conditions.

We bring these thoughts to our readers because we believe it imperative that the subject be openly discussed by men who have the country's interests at heart. As engineers we know the absurdity of a top-heavy structure and a weak foundation. The strength of any structure is not controlled at the top. It is the foundation that is important. If the foundation is sound the top is likely to take care of itself. The foundation of this Canada of ours is you and I. How good are we? How sound is our thinking? Do we think at all, or are we just parrots relaying somebody else's gibberish, or "believing" in some one else's belief?

These are pertinent questions. They are questions that you and I must face fearlessly least we wake up one morning and find the central power so infinite that we no longer have the privilege of expressing our thoughts.

Where control is in the hands of the few, the normal functioning of democratic methods can be balked and harrassed at every turn. Orders in Council, bureaucracy, Special Committees with powers to act — these all tend to stifle the voice of the people. It is but a short step then to lobbying; to control by minority, pressure groups with personal axes to grind.

We suggest that the extreme view of any subject is seldom, if ever, the correct perspective. A measure of wise control is naturally necessary, but it is only wise when it is performing the will of the controlled. Remote control cannot be in touch with that will of the people. Our civic and provincial authorities are necessary, and it is our belief that we should guard zealously our local rights of government. We are going to see still more forays on our provincial and civic sovereignty, and it is for us to analyze

the situation and make our stand on the question.

The question, then, is: which is the more democratic — centralized power or decentralized authority? Can we in this Dominion prosper by relinquishing control of most of our own affairs to a centralized few at Ottawa, or should we insist on our heritage? Can Ottawa really get a true acquaintance of Western needs, and would Ottawa do better for us than we can do for ourselves?

We all want a united Canada. Union is strength and strength means power — power to obtain what we want as individuals. In fact it is only insofar as that individuality is respected that the union becomes a success. The British Commonwealth of Nations is unfolding as a possible blueprint of a new world order, but if the rights of the respective members of that commonwealth were encroached upon, the whole structure would fall.

It is equally true in the smaller sphere of the nation itself. The provincial field of taxation has been taken over almost lock, stock and barrel by the Dominion Government. Ottawa in turn doles out to the provinces scanty funds for local needs and local development. The moment a man or community of men become economically dependent on others, that man or community have become indeed abject slaves. We suggest, therefore, as a basis for our approach to the subject, "Centralization or decentralization." that we stand pat on our economic rights. Only thus can we maintain our liberty of thought and action.

Vested interests-vested powers are not the friends of the common man. Whether in the industrial, commercial or political world, we voice the belief that we are travelling too fast along the road of centralized power. In some business and industrial quarters far-sighted men at the helm have realized this fact, and are, as quickly as possible, travelling the other way.

Civic rights, once they are relinquished, are very hard to regain. When the war is over the British North America Act will come up for discussion. It may need some revision to bring it up to date, but it will call for constant vigil on the part of every one of us if we are to retain our civic and provincial rights fought for and handed down to us by our forefathers.

This question is a challenge to all, but particularly to the scientific minds of technical men, who, when they build, know how to build well. An engineer is truly a better engineer for being interested in the vital problems of his day and generation, and for being willing to contribute toward their solution with orderly, scientific thinking.

British Columbia Reports

Year Book Issued

The 1944 Year Book of the Engineering Profession in British Columbia has just come to hand. As in previous issues the publication is well done and informative. Listed among its contents are: Previous Councils; Council-1944; District Advisory Committees; Board of Examiners; Foreword to Engineering Profession Act; Engineering Profession Act; Interpretation Act-Definition of Engineer; By-laws and Code of Ethics; Tariff of Fees-Engineering Institute of Canada; Course of Training Leading to Registration; Professional Theses-Memorandum; Book Prizes-University of British Columbia; Dominion Council; Abbreviations of Societies and Degrees; List of Engineering Pupils; Geographical List of Engineers and Students; Classified List of Engineers and Students; Application Forms.

The Foreword states that: "In any consideration of Professions in general it is interesting to note that the very earliest forms of professional life possessed qualities very similar to those of more modern times. The ancient priesthoods and the medieval guilds, the forbears of the present professions, showed three common characteristics. First of all they recognized a definite responsibility to the community at large which, in the case of the guilds, included official participation in the political life of the self-governing cities of Europe. In the second place both bodies recognized the importance of training young men in their work. The neophytes of the priesthoods and the apprentices of the guilds were expected to follow a specific course of training extending over some years before attaining full status in the order or guild. Following inevitably from these characteristics the early professions were granted the right to exclude non-members from engaging in their particular work. In some cases this right was enforced by the weight of tradition, while in others legal sanction was granted.

"Today the same three factors govern the administration of the professions. The major change has been in the manner of training recruits. In the past the entire training was done by the senior members of the professions, but today the teaching of the theory underlying the work of the Engineering Profession is largely entrusted to the universities, leaving the senior members of the Profession the responsibility of seeing that the younger men acquire the necessary experience in the course of their daily work after graduation.

"Engineering, while of great age as an art, is comparatively young as a science and still younger in professional tradition. One of the main difficulties has been the wide use of the term 'engineer' to cover positions requiring varied ability and training. To offset this it had been necessary for the Profession to use the term 'professional engineer,' and it is the duty of each member to see that the distinction between professional engineer and others is strictly observed and that the public is educated to such distinction. In this way tradition will grow up and the correct use of the title will be properly established.

Another misconception which, however, is dying out is that registration reduces the standing of the senior engineer to that of the newly registered man. This is, of course, no more true than to say that a member of another profession who has recently obtained his license is as able and competent as the leaders of his Profession. A license to practise merely states that the individual has attained a minimum standard without which the leaders of the profession feel that it will be dangerous for him to practise. After obtaining such license, years of study and experience lie ahead of the individual before he can feel that he is a well-qualified professional man."

Dominion Council

In order to promote uniformity and reciprocity among the several Provinces of Canada, there exists what is known as the Dominion Council of Professional Engineers. Its membership for 1944-45 is as follows: W. P. Dobson (President), Ontario; P. Burke-Gaffney (Vice-President), Manitoba; G. G. Murdoch, New Brunswick; Dr. A. E. Cameron, Novia Scotia; Col. C. C. Lindsay, Quebec; Dean R. A. Spencer, Saskatchewan; J. B. deHart, Alberta; H. C. Anderson, British Columbia.

Quoting again from the Year Book: "The Dominion Council of Professional Engineers was formed in Hamilton, Ontario, in 1936, when representatives of all the Provincial Associations in Canada met to discuss matters of mutual interest.

"While realizing that, under constitutional law, the Provincial Associations must exercise final responsibility in the matter of registration, it was felt that there was need for a central group representative of all the professional engineers throughout Canada, and with this in view the Dominion Council was formed.

"The Council consists of a representative from each Provincial Association and meetings are held each year. The express duties of the Council as outlined by the Constitution are given below:

To assist the Provincial Association (and Corporation) in securing improved legislation for the better protection and regulation of local professional interests.

To secure the adoption by Provincial Associations (and Corporation) of uniform standards of examination and membership.

To arrange for reciprocal privileges between Provincial Associations (and Corporation) for the benefit of their members.

To secure harmony of action in all matters affecting common interest, and generally to act in an advisory co-ordinating capacity to the Provincial Associations (and Corporation).

To negotiate with other organizations whereby the common interests of the engineering profession would be advanced.

"The revenues of the Council consist of assessments on each of the member Associations on a per capita basis."

What Is A Profession

Some Comments Thereon

By Secretary, New York State Society

August 14, 1944

Mr. Arthur V. Sheridan, Editor
The American Engineer
415 Lexington Avenue
New York 17, N. Y.

Dear Mr. Sheridan

Vacation time gave me an opportunity to look into the recent issue of the American Engineer.

Your editorial "What is a Profession?" attracted my interest in the first place. There is no doubt in my mind that any calling really measuring up to and satisfying the qualifications and requirements cited in your definition, can be classified as a profession.

It appears that the predominantly utilitarian application of Engineering in industry and commerce has retarded its recognition as a profession. This is supported by the article in the same issue of the American Engineer by F. W. Pearce "Deficiencies of Engineers." Many good reasons can be found therein, which show why engineers are not thought of as professional men. However, this is not the point at issue here, but the interest of engineers in the criteria of a genuine profession as enumerated by Dr. Horton, indicates that engineers feel qualified to meet the requirements.

Perhaps our immediate future will furnish a most unique opportunity to demonstrate to the world at large that Engineering plays a vital part in the conduct of life and the affairs of men as a profession side by side with the other professions, not older but recognized earlier.

Accept my humble belief that your definition is all-embracing and has a high ideal for its aim.

Sincerely yours,
Ernest F. Fox

August, 1944

The American Engineer,
415 Lexington Ave.,
New York, N. Y.

To the Editor:

The definition of a profession that you submitted in the August issue of The American Engineer is exceptionally well stated and is the best that I have ever seen. The part of your definition which seems to lift it to professional levels is contained in the words "— strong moral purpose in the application of the same to the conduct of life and the affairs of men."

I am convinced that the words "strong moral purpose" imply a quality that everyone expects in professional people but perhaps few will interpret its full meaning when applied to their own lives. Somehow, I would like to convey the thought, with some well placed words and without spoiling the interpretation of your definition, that men willingly entrust their lives and fortunes to a profession. My efforts to find appropriate words have been unsatisfactory but I pass along the thought hoping that others may be more successful. Perhaps we are not ready to say that men willingly entrust their lives and fortunes to a profession but it does seem to be true when tested and would clarify the picture for the individual if it were a part of the definition.

Your definition, in its present form, seems to me to be worthy of consideration by the other professions. As a suggestion, why not attack the problem jointly with the A.M.A. and A.B.A.? N.S.P.E, will gain prestige by inviting the others to participate in something that is common to all and that will help promote public understanding and appreciation of all professions.

Very truly yours,
A. G. Behling

Thoughts Re-Model Law

Where Does Industrial Engineering Belong?

Mr. James F. Fairman, President August 1, 1944
The N. Y. State Society of Prof. Engineers, Inc.

Dear Jim:

By the way, you may be interested to know that my National registration came through OK and thereafter I got the New Jersey registration. Thanks for your help.

You know the Editor of our American Engineer. I do not, hence this note to you.

I was reading his editorial "A Model Law" in the July 1944 issue and wanted to write him to suggest that the few of us who are engineers and are practicing "Industrial Engineering" cannot fit into the specifications set forth in the definitions on page 5.

Some schools are granting an IE degree and those fellows could not qualify if they did not get an engineering diploma. Maybe we are not engineers, but at least those of us in time-study do have more to do with public "welfare" than many who could qualify through more scientific efforts.

Considering the fact that so-called "Industrial Engineering" has been a rapidly growing near-professional effort and more particularly, considering the fact that there are many charlatans in the field, I for one, would like to see the model law written so they would be eligible as engineers, provided they studied engineering. Then I might be able to force a few of them out of the work unless they did meet standards of performance and ethics.

Sincerely, Phil Carroll, Jr.

Mr. Arthur V. Sheridan August 14, 1944

Dear Mr. Sheridan:

You will see by the attached that I wrote Jim Fairman concerning the "Model Law" which appeared in your editorial in the July 1944 issue. He suggested that I write to you.

My concern is that the definition hinges upon the application of mathematics and science whereas many so-called "Industrial Engineers" rarely, if ever, use either in the work. Even administrators such as Jim himself would hardly be admitable to membership under a strict application of the definition as it now stands.

I, for one, loathe the term Scientific Management, the field of Industrial Engineering activity, because it is not scientific. And yet some of the best work done in the field is carried on by engineering graduates.

Probably they could register because they had diplomas but that criterion seems as weak as water.

Therefore, I suggest that some consideration be given to the admission requirements for those engineers who specialize in what might be called "Human Engineering," and the Model Law written so as to recognize the importance of qualifications in this area, at least to the point where failure to qualify as specialists in science and mathematics does not disqualify good men from registration.

Yours very truly,
Phil Carroll, Jr.

Urges Metric System

Mr. Arthur V. Sheridan, Editor, August 3, 1944.

Dear Mr. Sheridan:

I was pleased to see in the June Issue of your magazine an article on the possible use of the Metric System in our country. This has been sort of a hobby with me for several years.

Organized Medicine has adopted the Metric System and is currently starting its general use in Medical Schools and Hospitals, etc.

With the probable expansion of international commerce after the war, the domestic use of the Metric System would greatly simplify meeting foreign orders for many kinds of goods.

With a major conversion of many plants to different lines with the coming of peace, the Metric system could be adopted with a minimum of waste and effort.

I hope that you give every opportunity to this reform to succeed. Changes denote progress, and this is no exception. Thank you for your attention.

Very truly yours,
John E. Shults, E. E.

Fragments from

STATE & SOCIETY ACTIVITIES

GEORGIA

Urges Change in Labor Ruling

Paralleling action by several other state organizations, the Georgia Society of Professional Engineers has addressed the Regional Director of the U. S. Department of Labor urging that the regulations incident to the Fair Labor Standards Act be amended to accord Professional Engineering the same recognition as a profession that is presently accorded to Law and Medicine. The petition of the Society follows:

Dr. James G. Johnson — July 27, 1944
Regional Director
U. S. Department of Labor
Wage and Hour, and Public Contract Div.
500 Witt Building
Atlanta, Georgia

Dear Dr. Johnson:

It has come to the attention of the Officers and Directors of the Georgia Society of Professional Engineers that the various Regional Directors concerned with the Administration of the Fair Labor Standard Act have been requested to make suggestions to their National Headquarters on any changes or amendments as may be desirable in the existing rules and regulations.

The writer has been instructed by the Board of Direction of this Society to request your consideration on the reccomendation that persons practicing professional engineering be also excluded from the provisions of the Act in the same sense that persons practicing the professions of Medicine and Law are excluded. To accomplish this Section 514.3, Paragraph B of the Regulations should be amended in the sixth line thereof after the word "Medicine" the words "or Professional Engineering."

Forty-six of the forty-eight States now have laws in effect governing the practice of Professional Engineering, and it is felt that the practice of engineering is and should be recognized strictly as a profession in the same sense that the practice of Medicine and Law.

You are probably familiar with the requirements for engineering license, and also are familiar with the fact that the requirements for educational background and internship designated in this case as the engineer-in-training period closely parallels that of the other recognized professions. It is probably true that at the time the Fair Labor Standard Act was being drawn up the "case" of the professional engineer was not adequately sponsored with the result that only the two professions of Medicine and Law were specifically excluded from the provisions of the Act. The National Society of Professional Engineers of which Georgia is a member State is now recognized as representing all branches of engineering practice and its membership restricted to licensed professional engineers.

The National Society is strongly advocating the above amendment which has the hearty approval of the Georgia State Chapter, and it is therefore hoped that you can give to this matter your endorsement to the National Headquarters.

Should you desire any additional information regarding the position being taken by the Professional Engineers, I shall be very happy to furnish same and in order that I may report back to the Society, I would appreciate receiving from you an expression of your reactions to this request.

Sincerely yours,
A. G. Stanford, President

ILLINOIS

Chapters Active

From Max Suter comes the following item:

The activity of the Illinois Society of Engineers is now mainly concentrated in summer meetings of the chapters. These meetings take the character of social gatherings and are well attended by members and guests. They are held mostly at country clubs, where some members play golf and others gather for friendly chatter.

Five chapters are known to have held such meetings, which not only are happily remembered by those in attendance, but which are also a good advertisement for the chapter and for the social abilities that engineers possess. They help to promote and present the human side of engineers and thereby perform an important function in the relations between men of technique and those in other fields.

MINNESOTA

Continues Summer Activities

The Minnesota Association News Letter bearing the date of July 29th affords the following evidences of summer activity:

Resolutions Up For Action

Two resolutions proposed by the MAPE have been presented to presidents of member state societies by the NSPE for immediate action. One advocates use of a single title which will clear up the confusion that has often resulted from the use of a variety of monikers coupled with the word "engineer." The resolution proposes that all licensed professional engineers adopt and use the single title on stationery and elsewhere of "Professional Engineer."

The second resolution calls for all state societies to contact the regional director of the Fair Labor Standards Board and advise him that the society requests that Sec. 541.3, paragraph B, of the regulations be amended by adding in the sixth line, after the word "medicine," the words "or Professional Engineering."

Bi-Monthly Council Meeting

The bi-monthly council meeting was held July 9 at Hotel Nicollet, Minneapolis, wih President Stolte presiding. Present were President-elect N. T. Rykken, R. R. Herrmann, Past President; Walter H. Wheeler, National Director; M. G. Brattas, District 1; Al M. Kircher, District 2; Louis Knudsen, District 3; Harold E. Chard, District 4, Charles E. Doell, Registration Committee; H. E. McWethy, Chairman of the Employment Practices Committee, and Wm. G. Klett, Chairman of the Press Publicity, Editing and Publishing Committee. Following is a brief resume of the proceedings:

Legislative Program

Mr. Chard reported that districts will be furnished with lists of legislators so that they may be contacted regarding the proposed registration law amendments.

Employment Practices Committee

Mr. McWethy, Chairman of the Employment Practices Committee, reported that it appeared to be necessary for MAPE or an authorized committee to qualify as a representative of the professional engineers in this state in order to intervene in proceedings before the NLRB and WLB. He asked approval for preparing an outline of the steps involved, after it was made clear we do not intend to act as a bargaining agent and all that this implies.

Public Policy Committee

A resolution was passed providing that a standard form of contract be prepared by a committee. The contract will be streamlined and on a percentage fee basis only, with special paragraphs to be provided to cover other methods of payment of fees. The matter has been referred to District No. 5 for study.

It was recommended that the proposal of a bill providing for a Board of Electricity be referred to the Legislative Committee, with the suggestion that a member of the commission mentioned in the bill as "electrical engineer" be defined as a registered professional electric engineer.

District No. 1 Meeting

District No. 1 had five guests at its July 15 meeting in the Pine Room of the Hotel Carleton in Rochester. They included President Stolte, President-elect N. T. Rykken, Hugh Leibee of Minneapolis and H. E. Chard of St. Paul. James F. Enz presided. Guest speaker was Prof. B. J. Robertson of the University of Minnesota, who discussed the training program for war veterans and steps the University is taking to avoid use of the term "engineer" in the program as it applies to abbreviated courses.

District No. 2 Meeting

District No. 2 met July 19 in the Saluspaugh Hotel in Mankato, with Floyd D. Minium presiding. Legislative and Membership committee reports were featured. An important meeting is slated for September 8, when guests will be legislators in that district.

District No. 5 Resolution

The following resolutions proposed by District No. 5 were adopted:

"Be it Resolved by the Council of the MAPE that we urge the Board of Directors of the NSPE to adopt a resolution and distribute it to the State Boards of Examiners for Registration of Professional Engineers, calling upon all of them to include examination of all applicants on their knowledge of ethical professional practice when they are examined as to their qualifications for registration."

"Be it Resolved that we urge the Board of Directors of the NSPE to adopt a resolution calling upon the engineering colleges of the country to include in their curriculums a full course of lectures on ethical practice of engineering as a professional, and that copies of this resolution be distributed to the various colleges of the country which give degrees in engineering to their graduates."

Splendid District 5 Meeting

Due to its arrival subsequent to the closing date the following promptly submitted report by Walter H. Wheeler did not appear in the August issue. The appreciation of the Editor is neverthless offered to Mr. Wheeler for his collaboration.

Minneapolis 1, Minn. July 15, 1944.

Mr. Arthur V. Sheridan, Editor
American Engineer
Borough Hall, The Bronx
New York, N. Y.

Dear Mr. Sheridan:

We missed you at the last Board meeting.

Anent your request for news hot off the griddle, I enclose clipping from the Minneapolis Morning Tribune of this date, and give you the following report.

District No. 5 of the Minnesota Association of Professional Engineers held its regular monthly meeting at the Y.M.C.A., Friday evening, July 14. Forty newly registered engineers were invited to attend the dinner and meeting as guests of the Association. They were mostly employees of the Minneapolis-Honeywell Company and the Northern States Power Company and other local industries.

The meeting was arranged by Ed Hutchinson of the Aluminum Company of America. C. K. Preus of the Minnesota State Highway Department, president of District 5 presided and introduced Mr. Hutchinson who introduced the speakers. George Shepard, City Engineer of St. Paul and member of the State Board of Registration explained the functions of the Board. H. E. McWethy, chairman of the state committee on employment practices reported on the activities of his committee. S. L. Stolte, president of the Minnesota Association of P. E., explained the functions of the state association Walter H. Wheeler, national director, explained the functions and work of the National Society of Professional Engineers. *Sincerely yours,*

Walter H. Wheeler

Municipal Employment of Professional Engineering Services

In a recent issue of Minnesota Municipalities the role of the Professional Engineer in city affairs is discussed by President S. L. Stolte of the Minnesota Association of Professional Engineers. Special reference is made to post-war public works in an introduction to the discussion. Quoting from the same:

The question of post-war municipal public works programs is being given a deserved place of importance these days. It is obvious that with the end of war, the demobilization of men and the return of a ready labor market, municipalities will open the throttle on a variety of undertakings.

"The war years have left their mark on Minnesota municipalities — marks not of bombs or plundering armies, but marks of wear and tear and neglect. Buildings and facilities are in need of repair and remodeling. New and larger ones are needed. Motorists are reminded only too often that roads and highways will be ready for a post-war face-lifting job. New health and safety facilities will be needed.

"Planning for the future centers around three points: (1) getting an overview now of the peculiar problems and needs of the community, (2) working out a sound program of public works, and (3) determining the best means of financing such a program.

"Perhaps one of the most important figures in all this community appraisal work is the professional engineer. He is far from being the forgotten man, but often he is so taken for granted that the community is unaware of the valuable service he can give, both in planning and execution—service that insures the community's getting a good return for its investment. Municipalities now engaged in post-war planning are gaining a new insight into the role of the professional engineer in public works, and it is apparent that they are going to be consulting with him even more in the immediate months to come.

State Registration Law

"As municipalities are aware, the Minnesota State Registration Law for Architects, Engineers and Land Surveyors, prescribes that plans and specifications or engineering supervision of any public work cannot be undertaken except by an individual registered in accordance with this law. So any expenditures on the part of municipalities for professional engineering services, except as they comply with this law, are illegal.

"Let us take a look at the professional engineer, his background, his code of ethics, his organizations and his professional fee standards. Minnesota has some 1,000 resident registered engineers listed in the 1944 Year Book of the State Board of Registration. They are qualified engineers in various branches of the profession, such as civil, electrical, mechanical, structural, aeronautical, highway, chemical, municipal and consulting. They are concerned with roads, streets, bridges, curbs, sidewalks, water and sewer systems, water treatment and sewage disposal plants, power plants and the structural and mechanical details of buildings. The profession of engineering, like the profession of medicine, has many branches of service, and an ethical member will undertake to serve a client only in that type of work in which he has had special training and experience.

"Professional engineering service is the result of a specific period of specialized training in the basic sciences, plus a broad experience with particular types of construction. This training and experience, plus personal judgment, competence and ethics of conduct, make engineering the progressive profession it is. Therefore, when community health and safety, as well as the expenditure of public or private funds are involved, it is in the interest of public welfare that engineering designs and supervision

be entrusted to men having a first order of competence in their particular field.

"In hiring a professional engineer, a municipality gives itself its greatest protection that its designs will be carried out in the safest and most economical manner. The professional engineer is a specialist of the highest order; a man respected in his community for personal integrity, training, ability and loyalty to his clients.

"'You get what you pay for' applies to engineering service just as it applies to groceries, clothing and other essentials and luxuries. The intelligent purchaser of commodities or services selects with care. He knows that bargains usually don't wear well. He doesn't have his refrigerator adjusted by a strange man who knocks at the back door and claims to be an expert repairman. He doesn't have his teeth cared for by a man who advertises with Neon lights and an invitation to 'Walk a flight and save $10.' He doesn't have his eyes treated for glasses by a fly-by-night charlatan gifted only with a fast flow of patter.

"With the same logic, the municipality entrusts the important job of improving and expanding its facilities to a man recognized by his community and by his professional colleagues as a person fully qualified to deliver satisfactory results. No individual, and no municipality, wants a white elephant on its hands. There is no room on a tax return blank for a white elephant, dead or alive. And it is a difficult animal to explain to the taxpayers who unwittingly purchased it.

"World War II has been called, and rightfully so, an engineers' war. The contributions of the engineering profession to the tools of war will go down in history as having speeded the day of victory. And with peace will come the unharnessing of essential materials and skilled minds and fingers to give us a more comfortable and gracious way of life. So this profession is alert to its responsibility and is holding its members to a rigid code of ethics, setting fair standards of fees, studying, planning and cooperating with public officials.

"Central organization of the profession is the Minnesota Association of Professional Engineers, an affiliate of the National Society of Professional Engineers. This is not a technical society, but an active, over-all body dedicated to raising standards of service to the public and to promoting public welfare and safety. The state organization has eight district societies functioning in different parts of the state.

"Because engineering is a profession, municipalities do not advertise for bids for such professional services. Municipalities may select a consulting engineer and can expect his services to be rendered under usual circumstances in accordance with the following schedule of fees adopted by the Minnesota Association of Professional Engineers. They are minimum fees, and municipalities should shy away from any engineer who will cut the price of his services. The accredited man knows his standards and adheres to them, knowing them to be fair.

Minimum Percentage Fees

"Such preliminary work as is necessary to apprise a governmental subdivision of the general scope and roughly approximate cost of a proposed project, (for which no funds have been appropriated) may be performed on an agreement to employ that engineer for the project and pay his preliminary fees as above set forth, if and when funds for the project are appropriated, provided that if funds are not appropriated not less than ½ of 1% shall be charged.

"When an engineer is required to prepare an assessment roll for a project that is to be financed wholly or in part by the levying of special assessments against benefited parcels of land, his fee for the preparation of such assessment roll should be not less than one (1) per cent of the cost of that part of the project so financed.

"Additional compensation shall be charged the client for extra work made necessary by changes, delays, or other causes beyond the reasonable control of the engineer.

"It shall be unfair practice for an engineer to agree to furnish or pay for legal services in connection with any municipal project.

Minimum Per Diem Basis

"If the nature of the work is such that it is not practical or convenient to use a percentage fee as hereinbefore scheduled or defined such as for consultation, preliminary investigation, valuations, reports, etc., such service may be performed on a per diem basis. The minimum rate for the principal engineer in such cases shall be $40.00 per day plus outside expense.

"The minimum fee for services of principal or consultant in connection with legal proceedings or as reviewing engineer or member of a board of reviewing engineers shall be at the rate of $50.00 per day plus outside expense, provided that not less than $15.00 shall be charged for any part of a day.

"The minimum fee for services of a professional engineer when sitting as a member of an arbitration board shall be at the rate of $80.00 per day, except in cases where the respective arbitration board sits for more than five days, in substantially consecutive order, to complete its findings, in which cases the minimum fee for services as a professional engineer serving as a member of such board shall be $50.00 per day for each day after the first five days. Outside expense shall be added to either of the aforesaid per diem rates.

"All services of assistants, draftsmen, etc., shall be charged at actual cost plus 100% for overhead, 'readiness to serve' and profit, or at an equivalent per diem rate, plus outside expense.

"The term 'outside expense' shall be understood to include subsistence and travel expense for the engineer and his assistants traveling in discharge of duties connected with the work, also the cost of incidental expenses, such as telegrams, telephones or extra copies of prints or photos of drawings, specifications and other documents required for the proper execution of the necessary engineering services for the client.

Minimum Lump Sum Basis

"Fixed lump sum fees shall be not less than the amount of the fee for the same services as they would be computed by either percentage or per diem methods as hereinbefore defined. Lump sum fees shall be permissible only where the character of the project is such that the cost can be estimated in advance with reasonable accuracy."

Code of Ethics

The Code of Ethics of the Minnesota Association of Professional Engineers is as follows:

That he may render proper and professional service to individuals and society, that the dignity of his chosen profession may be maintained and advanced in public understanding and esteem, and that his welfare may be improved, it is the duty of every professional engineer to practice his profession according to the following Code of Ethics:

Responsibility to the Public

1. To consider his profession as affording him distinct oppor-

Minimum Percentage Fees

Net Cost of Work	Fees Total	Preliminary	Work, Plans and Spec.	Gen. Supervision	Resident Superintendence
Under $25,000	7%	2%	3½%	1½%	
$25,000 to $50,000	6¾%	1¾%	3½%	1¼%	Res. Supervision to be billed
$50,000 to $200,000	6%	1½%	3¼%	1¼%	at cost plus 50% plus subsist,
$200,000-$500,000	5¾%	1¼%	3%	1½%	and travel expense.
$500,000-$1,000,000	5½%	1¼%	2¾%	1½%	Res. supervision included.
Over $1,000,000	4¾%	1%	2½%	1¼%	

tunity to apply his special talents, knowledge, skill and training for the improvement of the public welfare, a better economy and the benefit of all mankind.

2. To conduct himself at all times in a manner to merit and inspire the respect due a professional engineer.

3. To purposely take part in community and civic life because a respected professional engineer must first be a good citizen and a leader of thought and service in his community. In this way he will assist public officials and the public generally in obtaining a fair and correct general understanding of engineering matters, extending the public knowledge of engineering and avoid or discourage the appearance in public press or elsewhere of untrue, unfair or inaccurate statements related to engineering.

4. To refrain from associating himself with or allowing the use of his name in connection with any enterprise of questionable character or engage in any occupation which is contrary to the law or the public welfare.

5. To refrain from expressing any opinion which is not founded on adequate knowledge and honest conviction while serving as a witness before a court, commission or other tribunal.

6. To make provision for adequate safety to life and health of all persons who may be affected by work for which he is responsible.

7. To carry on his professional work with fidelity to client and employer, with a spirit of fairness to coworkers, employees and contractors, with loyalty to his country and with devotion to high ideals of service, courtesy and personal honor.

Responsibility to the Client or Employer

1. To act in professional matters as a faithful agent or trustee and to regard as confidential any information obtained by him as to the business affairs and technical methods or processes of a client or employer.

2. To foster the exchange of engineering knowledge by encouraging the employment, as consultants, of specialists in the particular problem under consideration to the end that the client or employer will be served by the best talent within the profession.

3. To encourage the exchange of information with manufacturers and their representatives but to accept no gratuitous service that might compromise the engineer, t ehprofession or the best interests of his client.

4. To refrain, except with the full knowledge and consent of his client or employer, from serving professionally when financial or professional interests might compromise his position as an unprejudiced advisor.

5. To accept financial or other compensation for a particular service from one source only, except with the full knowledge and consent of his client, employer and any other interested parties.

Responsibility to Other Members of the Engineering Profession

1. To advertise as an engineer only in a manner befitting the dignity of his profession.

2. To refrain from soliciting professional employment or services except in conformity with the Code of Fair Practices as adopted by the Minnesota Association of Professional Engineers.

3. To refrain from reviewing for a client any work of another engineer except with the knowledge and consent of such engineer, or unless the connection of such engineer with the work has been terminated; and to refrain from using without proper acknowledgement the plans, maps, specifications and other engineering data prepared by another engineer.

4. To refrain from taking advantage of his position when called into a problem for consultation by a fellow engineer, recognizing that such engineer is the engineer in charge and finally responsible for the professional engineering services and decisions to be rendered.

5. To avoid using unfair means to win professional advancement and refrain from any attempt to supplant another engineer after definite steps have been taken toward his employment.

6. To refrain from injuring falsely or maliciously, directly or indirectly, the professional reputation, prospects or business of another professional engineer.

7. To refrain from competing with another engineer for employment or retention on the basis of charges or salary for the work, by reducing his usual charges or salary and in this manner attempt to underbid, after becoming informed of the charges or salary named by the other engineer.

8. To consider the affixing of his registration stamp or seal on plans and specifications a professional trust.

9. To refrain from association professionally in a partnership or quasi partnership with a person not registered.

10. To refrain from using the advantages of a salaried position to compete unfairly with architects, professional engineers or land surveyors.

11. To cooperate in the upbuilding of the engineering profession by exchanging general information and experience with his fellow engineers and students of engineering and also to contribute to work of engineering societies, schools of applied science and the technical press.

Conclusion

"While the foregoing statements express in a general way the responsibility of the engineer to the public, the client, or employer as well as to other members of the profession and the profession at large, it is not to be supposed that they cover the whole field of engineering ethics or that the professional engineer is not under many duties and obligations besides those herein set forth. A profession has for its prime object the service it can render humanity. Reward or financial gain should be a subordinate consideration. The practice of engineering is a profession. In choosing this profession an individual assumes an obligation to conduct himself in accord with its ideals, to continually improve himself in his chosen profession and to diligently keep informed of scientific advancements. Finally these principles are primarily for the good of the public and their application should be conducted in such a manner as shall deserve its approval, support and cooperation.

"There are several methods by which municipalities may obtain the names of registered professional engineers. One procedure is to check with other municipalities to find out whom they engage to do the professional engineering work on a project similar to the project they have been contemplating. Another is to refer to the State Board of Registration's Year Book in which are listed all registered engineers for Minnesota. One other is to get in touch with the State Office of the Minnesota Association of Professional Engineers, 1010 Guardian Building, St. Paul. In writing, it is advisable to describe the type of project under consideration, so a more intelligent selection of consulting engineers may be made. The office will reply to each query with a panel of names from which the municipality may make its choice. While it is not always possible for a municipality to know personally the man it engages for an important job, selection from an accredited list assures it that the man has at least the minimum qualifications established as necessary for his registration.

"The Minnesota Association of Professional Engineers has published a small booklet listing in detail salaries of professional engineers employed on a full time basis, consulting fees and per diem rates. It will be mailed out to public officials or other interested persons upon request."

MISSOURI

Recent Notes

From the Missouri Engineer the following has been excerpted:

Executive Board Actions

Fees and Salaries —

In response to a resolution of the National Society, the Executive Board moved to assign this survey to joint study of the committees on Collective Bargaining and Public Relations. Six state societies have already completed a similar survey and at least two, Ohio and Washington, have published booklets presenting minimum fees and salaries. Industry and government have been quick to accept such standards prepared by recognized professional groups in the absence of any "yard stick" for the profession. In several instances it has alleviated the necessity of collective bargaining functions which professional societies are hesitant to accept.

Jefferson City was chosen as the convention city for the annual meeting to be held December 2 and 3. The Missouri Association of Architects will cooperate in a joint meeting.

Professor Butler's Membership Committee is getting under way with its drive to bring in two hundred new members this year. An analysis of the registered engineers located throughout the state has been made and it is in this group that the work will be done. About half of the present membership is registered and a smaller portion of the registered engineers of the state are members. The state committee will work through the chapters and the job of bringing in the individual engineer will be done by the membership committee of the chapter with the support of each member.

Whether or not the present registration law would enable a graduate engineer to take an examination for registration immediately following graduation was a topic for debate following the report of the Committee on "Engineer-in-Training." A part of this report appears elsewhere in this issue. Such an examination on theory would be followed four years later by an examination on actual practice to determine the applicant's full knowledge of the application of engineering principles.

Engineers-In-Training

Tentative Report of committee headed by E. W. Carlton; projects phases of the problem involved

Since registration for professional engineers has become a law in the State of Missouri, there has been an increasing feeling among many engineers that something progressive and definite must be done to take care of the interim between the time our young engineer graduates leave college, and their maturity as professional engineers. Also, this same problem exists for sub-professional engineers, who are not college graduates, during their apprenticeship in our profession. Under the present law and "set-up" of MSPE there is no real connection or relationship between our young "budding" engineers and the older members of the profession. In other words, there is a period of some four to eight years in which practically no professional guidance, encouragement or interest is shown our future professional men by the older members of the profession. It was in recognition of this problem that our president, Bruce Williams, appointed the Special Committee on "Engineers-In-Training" to thoroughly study this problem, and if possible, offer recommendations to the Missouri Society.

After considerable correspondence with such organizations as the Engineering Council for Professional Development, the American Society of Civil Engineers, the Ohio Society of Professional Engineers, the New York Society, the Georgia Society, and others, our problems seemed to resolve itself into two parts or phases as follows:

"First: Possible revision of our present Registration Law to permit the young applicant to take the required examination (oral or written) on fundamental engineering subjects prior to his completion of the requisite years of experience in engineering work, necessary for maturity as a Registered Professional Engineer.

Second: The possible establishing of an auxiliary organization known as 'Engineers-In-Training' with a membership distinct from the parent society, being composed of young eligible sub-professional men, under the guidance and encouragement of the MSPE."

A resolution presented by the committee is as follows:

"Resolved, that the Missouri Society of Professional Engineers go on record favoring the permission of 'Engineers-In-Training' to be allowed to take the examination for registration as a Professional Engineer in two stages. The first stage of the examination may be taken with the permission of the registration board at any time after he has completed four years of the required eight years of active practice or training and active practice. This first stage of the examination shall test the applicant's knowledge of fundamental technical subjects including mathematics and the basic sciences. Satisfactory passage of this portion of the examination shall constitute a credit for the life of the applicant or until he shall have been registered.

"When the applicant has satisfactorily passed the first stage of the examination he shall be given an appropriate certificate by the Board showing his status as an 'Engineer-in-Training.'

"The second stage of the examination shall cover the more advanced professional training of Engineers as amplified and matured by practical experience and shall test the applicant's ability to apply the principles of engineering to the actual practice of his profession.

"The applicant shall not be eligible to take the second stage of the examination until he has satisfactorily completed the required eight years of active practice or training and active practice. He may, at his option, take both stages of the examination at one time after he has completed the requisite eight years of active practice of training and active practice."

Chapter News

Western, Jefferson City, Southeast and Ozark are among Chapters reporting meetings and actions.

NEW YORK

More On Engineers-In-Training

Another group of Engineers-in-Training bringing the total to 71 has been certified by the State Board of Engineering Examiners. The new list contains the following forty names:

Kenneth B. Amer
1521 President Street
Brooklyn, New York

Robert A. Auld
67 Girard Avenue
East Orange, N. J.

Sidney H. Avner
161 Buffalo Avenue
Brooklyn, N. Y.

H. Maxwell Balter
2160 E. 17th Street
Brooklyn 29, N. Y.

Richard F. Becker
55 Morton Street
New York 14, N. Y.

Mortimer M. Elkind
2153 E. 23rd Street
Brooklyn 29, N. Y.

Charles N. Fahrenkopf
184 Beach 126th Street
Rockaway Park, N. Y.

Clark I. Fellers
Plant Engineer's Office
Camera Works
Eastman Kodak Co.
Rochester, N. Y.

Joseph F. Furlong, Jr.
109 Pembroke Place
Kew Gardens, N. Y.

Zola Fox
550 Snediker Avenue
Brooklyn, N. Y.

John James Geralde
1428 Midland Ave.
Bronxville 8, N. Y.

Nathan Gilbert
15 Westminister Road
Brooklyn, N. Y.

Bernard R. Barrett
16 Wallace Street
Red Bank, N. J.

Marcus Gilden
255 Cabrini Blvd.
New York 33, N. Y.

Joseph Gold
2171—75th Street
Brooklyn, N. Y.

Bernard Goldberg
235 Vernon Avenue
Brooklyn, N. Y

Lawrence E. Goodman
30 W. 190th Street
New York 63, N. Y.

C. E. Holverstot
114 W. Water Street
Painted Post, N. Y.

Harry P. Howard
32-53 — 83rd Street
Jackson Heights, N. Y.

Samuel Klurfeld
41-15 — 44th Street
Long Island City 4, N. Y.

Zusse Levinton
780 Grand Concourse
Elmhurst, N. Y.

Herbert Mandelbaum
1057 Carroll Street
Brooklyn, N. Y.

Robert L. Marcotte
Eastman Kodak Company
333 State Street
Rochester, N. Y.

Sol L. Meiselman
421 Brook Avenue
New York 54, N. Y.

Donald J. O'Connor
631—72nd Street
Brooklyn, N. Y.

Stanley H. Pansky
1801 Loring Place
Bronx 53, N. Y.

Harold M. Poland
National Mfg. Corp.
Tonawanda, N. Y.

John R. Powers
95 First Avenue
Ilion, N. Y.

Jacob Rabinowitz
1069 Walton Avenue
New York, N. Y.

Reino E. Rahikka
148 Orient Avenue
Jersey City, N. J.

Harry P. Rogers, Jr.
14-24 Burton Street
Beechhurst, L. I.

Leighton B. Rollins
673 Locust Street
Mount Vernon, N. Y.

Robert Sahagian	Isadore Stillman
450 Audubon Avenue	3706 — 65th Street
New York 33, N. Y.	Woodside, L. I.
Irwin P. Sander	William W. Swenson
3235 Grand Concourse	210 Tuscarora Road
New York 58, N. Y.	Buffalo, N. Y.
Daniel Savitsky	Seymour Warshaw
179-81 East 3rd Street	1818 Avenue L
New York 9, N. Y.	Brooklyn, N. Y.
Richard Skalak	
317 East 72nd Street	31 — February, 1944
New York 21, N. Y.	40 — June, 1943
George R. Steinbrenner	—
1311 Pierce Avenue	71 TOTAL
Niagara Falls, N. Y.	

The appended exchange of correspondence is self-explanatory

Army Air Forces
Section P
Lowry Field, Colorado
July 25, 1944

Mr. John C. Riedel
c/o New York State Society of Professional Engineers
1941 *Grand Central Terminal*
New York 17, *N. Y.*

Dear Sir:

I was indeed happy to learn that I was among the forty applicants fortunate enough to pass the examination for Engineers-In-Training given by the State Education Department.

I have read the plan proposed by your organization to aid Engineers-in-Training and I think it a very fine idea. Unfortunately, at the present time, I am unable to take advantage of the opportunity you offer. Since becoming a member of the armed forces, I have been forced to suspend all civilian activities.

However, I can assure you that upon my return to civilian life, I would be most anxious to join the New York State Society of Engineers-in-Training.

I thank you for your interest in me.

Sincerely yours,
Pvt. Kenneth B. Amer

August 1, 1944

Pvt. Kenneth B. Amer
Army Air Forces, Section P
Lowry Field
Colorado

My dear Mr. Amer:

Your response of July 25 to my previous letter is appreciated, particularly in that although you are so busily engaged in war activities, you have taken time out to write.

We here, in civil life, know full well that the young man now in the Army cannot do those things which in civil life he would be glad to undertake. Therefore, the formation of our Society of Engineers-in-Training must await the conclusion of this war. We firmly hope that the end is not far distant and that we will soon be able to welcome you and your fellows-in-arms back to a life of peacetime activity. We shall indeed welcome you and we will aid you and your fellows in any manner that our Society can.

Yours sincerely,
John C. Riedel
Chairman, Committee on
Engineers-in-Training

Registered Engineers in New York State

The number legally registered in New York State and in good standing as of June 30, 1944, is as follows:

Engineers	13,610
Land Surveyors (not licensed as Engineers)	755
Total	14,365

This total of New York registrants includes 1799 engineers residing in other states.

OHIO

Never Fails

The Executive Committee of the Ohio Society met on the evening of August 4th. Ten days later the Ohio Engineer, with full details thereof has been compiled, published, mailed and in the hands of the Editor of the American Engineer in New York. This is a monthly occurrence. Again many thanks for cooperation,

Taken verbatim from the Ohio Engineer for August are the following:

President's Letter

The engineer who works for an industry may consider that it is not necessary for him to become a registered Professional Engineer. He may feel that the registration law in Ohio, as commonly interpreted, does not require this since engineering work which is conducted wholly within private property is exempted, when public health and safety are involved.

However, the engineer in industry would do well to look upon this situation broadly and to obtain for himself the dignity and legal standing of Professional Engineer, even though it may not be required by the present registration law. Any engineer at any time may be called upon to testify in court, or in some other way to be recognized legally as a Professional Engineer. Administrators of such laws as the Selective Service Act have paid considerable attention to the legal status of the man who claims to be an engineer. Similar situations are likely to develop.

Furthermore, the State of Ohio intends to protect the public and there is no telling when the Registration Act may be amended, making it necessary for more kinds of work in industry to be carried on by registered Professional Engineers. The trend has been in that direction. It is quite possible that the design and manufacture of many fabricated articles which go into public use will be considered as involving public health or safety.

At the present time, engineers who can present the proper credentials and the proper record of education and experience can become Professional Engineers without examination. After next year, examination will always be necessary.

Some good engineers will be so unfortunate as to wake up some morning in 1946 or later and find that they need the privilege of practicing Professional Engineering in Ohio and they cannot obtain this privilege without passing a rigid examination. You render your fellow engineers a great service when you call this to their attention.

Sincerely yours,
Tom Rolph

Executive Committee Meeting

National Director Kennedy entertained the Executive Committee and their wives at his home in Shaker Heights on August 4th at the regular monthly meeting of the committee.

The secretary's and treasurer's reports revealed a membership of 2285 with a total net financial balance of $7001.89. A report on the budget revealed that in the first half of the year no item had been exceeded.

Much discussion followed the report of Chairman Hubbard concerning his committee's plans for publishing a brochure on Engineers in Industry. The plans included the subjects of the chapters to be written, the names of members who would be asked to write these chapters, and the general plans for the make-up of the brochure. The committee commended Hubbard on his good report.

President Rolph named a committee of two, J. R. Shank and J. S. Kennedy, to make a study of the proper procedure for appointing or electing the National Director.

Names for citations can be sent to the O.S.P.E. office or the Citations Committee any time now.

Executive Secretary Chacey's plans for a Manual of Chapter Activities, which he had compiled with the help of various committees, was approved. His plans for visiting some twenty-two of the chapters during the month of September were also approved.

The meeting adjourned for a delicious supper prepared by Mrs. Kennedy. Because of rain the picnic table had to be removed

from the Kennedy's beautiful lawn to their garage. A fine time was had by all.

Unionism

References of the attitude of the Ohio Society and the National Society of Professional Engineers toward labor unions and bargaining agencies:

1. March issue of the Ohio Engineer, page 2, Nold's speech.
2. March issue of the Ohio Engineer, page 12, Report of Engineers in Industry.
3. June issue of the Ohio Engineer, page 4, N.S.P.E. Resolution.
4. Minutes of the Board of Trustees of the Ohio Society, March 12, 1943, quoted below.

Resolution Relative To Unionism

Whereas, The United Mine Workers of America has presented to the Bituminous Coal Industry demands for a new wage contract to become effective April 1, 1943. These demands are contained in a document entitled "Wage Scale Increases Asked and Proposed Corrections of Mining Practices for the Bituminous Coal Industry Adopted by the International Policy Committee of the United Mine Workers of America," and dated March 9, 1943, at New York, N. Y., and

Whereas, Item 8 of above said document states as follows: "The term 'mine worker,' as used in this Agreement, shall include all persons inside or outside of the mine, except the superintendent," and

Whereas, Said item 8 apparently contemplates the inclusion of Engineers and Surveyors "inside or outside of the mine" as "mine workers," and

Whereas, the ratification of this proposed contract would apparently force all Engineers and Surveyors employed inside or outside of a bituminous coal mine to become members of the United Mine Workers of America as a condition to continued employment, and

Whereas, This Board of Trustees has previously opposed and continues to oppose the unionization of Engineers and Surveyors as contrary to the fundamental principles of Professionalism.

Now Therefore Be It Resolved, That the Board of Trustees of the Ohio Society of Professional Engineers in regular meeting assembled disapproves of the above mentioned Item 8 insofar as it might include Engineers and Surveyors.

Be It Further Resolved, That the National Society of Professional Engineers is hereby requested to immediately take such measures as may be necessary to have Engineers and Surveyors specifically exempted from the application of said Item 8; that the proper committee of the United Mine Workers of America; the negotiating committee of the Bituminous Coal Operators and if necessary the National Labor Relations Board be contacted with this objective in view.

Approved by the Board of Trustees of O.S.P.E. March 12, 1943.

Minutes of N.S.P.E., May 26-27, quoted below:

Resolution submitted by Minnesota Association of Professional Engineers and approved by the N.S.P.E. Board at their meeting in Milwaukee, Wis., May 26-27, 1944,

Whereas, The National Society of Professional Engineers has recently been informed by the Regional Director of the Fair Labor Standards Board in Minnesota that the Regional Directors have been requested to at once send in to the National Board any suggestions that come to them for changes or amendments in the Board rules,

Now, Therefore, Be It Resolved, that the National Society of Professional Engineers immediately request that all State Societies contact the Regional Director of said Board in their district and advise him that this Society requests that Sec. 541.3, Par. B of the regulations be amended by adding in the sixth line thereof after the word "medicine" the words "or Professional Engineering."

OKLAHOMA

Prepares For 1945

Chairman Ritzhaupt of the Oklahoma Society of Professional Engineers advises that the 1945 Annual Meeting has already been scheduled and that plans for the same are presently under way. Quoting from a communication dated August 4, 1944:

"The Oklahoma Society of Professional Engineers will hold its Annual State Meeting in Oklahoma City, Oklahoma on Friday, January 12th and 13th, 1945 at the Huckins Hotel.

The first day will be devoted to registration, committee meetings and Board of Directors Annual Meeting. In the evening, the Annual banquet, dance and frolic will be staged. Saturday all day will be devoted to meeting of the general assembly.

As soon as the completed program is published, it will be mailed to the membership.

Mark These Dates On Your Calendar now and do not allow any conflicting dates to hinder your attendance. I can assure you there will be some hot discussions on subjects that will be intensely interesting."

RHODE ISLAND

Keeps Active

Received too late for insertion in the August issue are the following from the hand of Secretary Charles E. Blais of the Rhode Island Society of Professional Engineers.

Dear Engineer Sheridan: July 26, 1944

I am enclosing herewith a letter and also a copy of a Resolution of the Rhode Island Society of Professional Engineers which our Society has submitted to Hon. Dennis J. Roberts, Mayor of Providence. Feeling that the action thus taken may be of some interest to the National Society we submit copies to you for what they are worth. Things in Rhode Island are looking up and we are very confident of increasing our membership this year. All of our meetings this year have been interesting and well attended.

Cordially yours,
Chas. E. Blais, Secretary

Hon. Dennis J. Roberts July 24, 1944
Mayor of Providence
City Hall
Providence, Rhode Island
Dear Mayor Roberts:

Enclosed please find resolution adopted at the regular meeting of the Rhode Island Society of Professional Engineers, held on June 19, 1944.

The Rhode Island Society of Professional Engineers is vitally interested in a successful post-war program for the City of Providence and eagerly extends to you the cooperative effort of the Society.

It is earnestly hoped that you find it convenient to appoint a Registered Professional Engineer to actively assist the Planning Commission to bring your program to a successful conclusion.

Very truly yours,
Chas. E. Blais, Secretary

Resolution of Rhode Island Society of Professional Engineers

Whereas, the Honorable Dennis J. Roberts, Mayor of the City of Providence, R. I., will shortly appoint the members of the proposed City Planning Commission, and

Whereas, the creation of said City Planning Commission is a vital step in the promotion and execution of essential post-war projects and developments for the City of Providence, and

Whereas, it is of the utmost importance that the projects to be developed be selected in the wisest manner and carried to a successful conclusion in the most economical way, and

Whereas, the success — physical and economic — of the contemplated post-war activities and the wisdom for their selection is predicated on sound engineering practice, initiation and execution,

Now Therefore Be It Resolved, by the Rhode Island Society of Professional Engineers, at this meeting assembled in the Engineering Building, 195 Angell Street, Providence, R. I., on June 19, 1944, that Mayor Roberts be respectfully requested to consider the appointment of one Registered Professional Engineer

and one Registered Architect to the new City Planning Commission, and

Be It Further Resolved, that a copy of this Resolution be forwarded to Mayor Roberts.

I hereby certify that the within and foregoing Resolution is a true and correct copy of the Resolution adopted by the Rhode Island Society of Professional Engineers at its meeting on June 19, 1944.

Chas. E. Blais, Secretary

TEXAS

Issues 1944 Roster

The July Roster of the State Board of Registration for Professional Engineers has just come to hand. Containing more than 110 pages it is a well ordered and informative bulletin. Included therein are:

COPY OF THE LAW, BY-LAWS, RULES AND REGULATIONS OF THE BOARD, DATA ON PROFESSIONAL ENGINEERING REGISTRATION IN TEXAS, AND INFORMATION AS TO APPROVED SCHOOLS AND RECIPROCAL REGISTRATION

Of particular interest to non-Texans are the Rules and Regulations which are herewith stated:

Rules and Regulations

Governing Registration, Examinations, Renewals, Etc.
Renewals, etc.
(Last Amendment May 12, 1941)

Rule I—Classes of Applicants

The certificate of registration issued by the Board shall be uniform in all cases, but for convenience and reference and for the purpose of determining qualifications for reciprocity, all applicants will be classified in one of the five (5) following classes:

Class 1—Comprises applicants who apply for registration under Subsection (a), Section 12.

Class 2—Comprises applicants who apply for registration under Subsection (b), Section 12.

Class 3—Comprises applicants who apply for registration under (Note: After May 28, 1942, by the statute, applications for registration under Section 12c cannot be considered by the Board.) Subsection (c), Section 12.

(Note: As the Attorney General, February 12, 1938, gave to the Board an opinion that "the clause 'and was not practicing professional engineering at the time this Act becomes effective' is so illogical and repugnant to the Act in its entirety as to be void and inoperative" the Board is considering applications under this section without regard to that clause.)

Class 4—Comprises applicants who apply for registration under Section 18.

(Note: After May 28, 1938, by the statute, applications for registration under Section 18 cannot be considered by the Board.)

Class 5—Comprises applicants who apply for registration under Section 21 (by reciprocity).

Rule II—Form of Application

All applications for registration shall be made on printed form provided by the Board and no applications made otherwise will be accepted. In event the printed form does not contain sufficient space for the evidence to be submitted additional sheets may be attached, which shall be of plain white paper, 8½ by 11 inches in size. Such additional sheets shall be typed on one side only. Applications must be clearly typewritten in black, suitable for photostatic copy, and all questions must be answered. An application not properly made out, or not containing all of the information provided for, or not accompanied by the required fee will be returned with a statement of the reason for return. Each copy of the application shall be accompanied by an unmounted, recognizable, recent photograph of the applicant, with date taken, or photoengraving of same (size 2 by 2½ inches overall with face not less than ¾ inches wide).

Applications shall be subscribed and sworn to before a Notary Public or other person qualified to administer oaths.

The conditions set out in the Application Form, including the Code of Ethics, shall be construed to be a part of the Rules and Regulations.

Rule III—Fees

Fees shall be transmitted by money order, or certified check payable to Carl L. Svensen, Secretary, 511 Ewell Nalle Building, Austin, Texas. The Board assumes no responsibility for loss in transit of cash remittances. Applications not accompanied by the proper fee will be returned to the applicant.

An application for registration as a professional engineer shall be accompanied by the required fee as follows:

Classes 1 and 2—A fee of $15.00, which is retained by the Board, regardless of whether application is approved or rejected.

Class 5—A fee of $10.00, together with a certificate of qualification, or registration, as per requirement in Section 21 of the Act.

Upon notification that applications under Classes 1, or 2 have been approved by the Board, the remaining $10.00 of the fee shall be remitted to the Secretary of the Board before certificate will be issued.

Rule IV—References

Upon receipt of an application, the Secretary may have prepared an abstract of the information contained therein and transmit a copy thereof to each reference, together with a copy of the Board's uniform questionnaire and form letter for his reply. Applicants will note that three or more of the references shall be professional engineers.

Any Board Member may make an independent investigation of the applicant's qualifications and report his findings to the Board.

No statement of a reference will be accepted by the Board unless such statement answers fully the questions submitted by the Board, and bears the signature of the reference. Until such time as the required replies from the references are received, the Board will not take action on the application.

In cases where undue delay takes place in the reply from the references, the applicant will be notified by the Secretary of the Board.

Rule V—Branches of Engineering

The Act makes no specific designations as to the branches of engineering practice for which certificates of registration shall be issued. The Board will recognize each accredited branch of engineering for which degrees are offered in the curricula of engineering schools and colleges approved by the Engineers' Council for Professional Development, and will issue certificates of registration to applicants who demonstrate their qualifications for practice in their particular branch under the provisions of the Act and in conformity with the rules and regulations of the Board.

To determine who is a professional engineer and who has engaged in professional engineering as defined in this Act the Board will recognize, among other branches of engineering practice, the following: Civil, Mechanical, Electrical, Mining and Metallurgical, Petroleum and Natural Gas, Structural, Geological, Chemical, Aeronautical, Agricultural, Ceramics, and Textile.

Rule VI—Definitions of Terms

The term "Professional Engineer" when construed by the Board shall mean a person who, by reason of his knowledge of mathematics, the physical sciences, and the principles of engineering acquired by professional education and practical experience is qualified to engage in engineering practice.

The term "Professional Engineering" when construed by the Board shall mean professional service which may include consultation, investigation, evaluation, planning, designing, or responsible supervision of construction, in connection with any public or private utilities, structures, buildings, machines, equipment, processes, works or projects wherein the public welfare, or the safeguarding of life, health and property is concerned or involved, when such professional service requires the application of engineering principles and the interpretation of engineering data.

The term "Professional Engineering" when construed by the the Board shall mean the technical control and direction of the investigation, design, and construction of engineering works re-

quiring initiative, engineering ability, and the use of an independent judgment.

The Board, in passing on each of these requirements as defined, will carefully weigh the evidence of experience submitted by the applicant and the replies received from his references.

As noted in previous issues of The American Engineer, the Texas Engineers Library established by the State Board of Registration is now in operation.

Rule VII—Schools Approved by the Board

Engineering schools, or colleges approved by the Board are those which require for entrance, graduation from an accredited high school or preparatory school (or equivalent by the passing of advanced standing examinations), which offer a four year's course leading to a degree of bachelor of science in recognized branches of engineering, or its equivalent, and which are approved by the Engineers' Council for Professional Development.

The Board, in its discretion, may give consideration or approval to applications made under Section 12, Subsection (a) of the Act, from individuals who have received degrees in engineering from schools or colleges other than those covered by the limitations set out in the foregoing paragraph where applicant's experience and accomplishments in his special field justify special consideration by reason of his standing in the engineering profession.

Rule VIII—Examinations

Examinations may be oral, written, or both oral and written, ex cept of applicants under Section 12 (b) in which examinations will be either oral and written, or written. Examinations, whether oral, written, or both, will be held at such time and place as the Board may designate. Applicants of whom examinations will be required will be notified to this effect at least thirty (30) days in advance.

In general the examination will be divided into two parts: Part One will cover the subject matter of a general engineering education or training. If the applicant is a graduate from an engineering school which the Board in its discretion may approve, ognized branches of engineering will be considered in the preparation of the Examination; however, when the education, or the experience of the applicant has been in a highly specialized field, the Board erserves the right to conform the nature and extent of the examination to the particular qualifications of the applicant. The Board reserves the right to conform the nature and extent of the character of the examination of the applicant in the light of his experience, special qualifications, or outstanding accomplishments.

All examinations will be in the English language.

Failure of any applicant to take the examination after having been notified by the Board to appear for such examination will be regarded as failure to receive a passing grade and will be so entered up in the records of the Board. This will result in rejection of the application upon action by the Board.

A brochure giving information regarding examinations will be sent to all applicants to whom the Board passes to registration under Section 12 (b) subject to passing the required examination.

(Note: The Board sends to all who request application blanks together with the application blanks a copy of the engineering registration law, of the Board's By-Laws, and these rules and regulations for guidance in the preparation of applications. As with all matters which have to do with professional engineering registration in Texas, information, if desired, as to the divisions of the 12 (b) examination, the value of each, or other pertinent data, may be obtained from the offices of the Board.)

Rule IX—Disposal of Applications

When the Board, after due consideration of an application and of information pertaining thereto, is satisfied that the applicant is eligible for registration under the particular classification under which the application is made, the applicant will be voted registration. If the finding of the Board is that the applicant is the application is made, the Board may vote the applicant registra- not eligible for registration under the classification under which the application is made, the Board may vote the applicant registration in such other classification as it finds that he is eligible. The applicant will be notified of the action of the Board by the Secretary.

Rule X— Rejected Applications

If an application is rejected, the Board will advise the applicant in accordance with provisions of the Act.

Rule XI—Registration Number

At the time an applicant is voted registration by the Board, he will be assigned a serial number. These numbers will be issued consecutively in the order in which the applications are approved by the Board. The applicant will be advised of his serial number in the notice sent him by the Secretary. He will also be instructed to secure a seal of the type specified by the Board and bearing his name and serial number. As soon as the registrant has secured his seal, he shall make an imprint thereof on a form to be furnished by the Board and shall return the same to the Board for its files.

Rule XII—Seals

Seals of two different sizes will be acceptable, a pocket seal the size commercially designated as a 1⅝ inch seal, or a desk seal, commercially designed as a 2 inch seal, same to be of the design shown herewith:

Rule XIII—Certificates of Registration

As soon as possible after the Board has received from an applicant, who has been notified of the approval of his application and of his serial number, a satisfactory imprint of his seal and payment of his registration fee, a certificate of registration will be issued, signed by the Chairman, and the Secretary, bearing the seal of the Board, and also bearing on its face the serial number of the registrant.

No registrant shall hold more than one certificate of registration. In case of change in the section under which registration is voted any registrant he shall have delivered to the office of the Board such certificate as is held by him before a certificate evidencing the later registration is put in his possession.

The application of any applicant who fails to complete his registration as provided for hereinabove within a period of six months after notice is mailed to him by the Board that he has been voted registration shall be rejected upon action by the Board.

Rule XIV—Application from States Not Providing for Reciprocal Registration Privileges

Applicants who are legal residents of states which do not have registration laws or from states, the registration laws of which do not provide reciprocal privileges, may be registered in this State only upon the basis of the provisions of Section 12, Subsections (a) and (b) of this Act. If at any time any state shall repeal its registration law, or withdraw reciprocal registration privileges of Texas registrants, all registration under Section 21 of this Act, and based upon certification of registration from the state in question may be revoked by action of the Board.

Rule XV—Expirations and Renewals

Stipulations with reference to expirations and renewals of certificates of registration are set out in Section 16 of the Act.

Rule XVI—Revocation and Reissuance of Certificates

Under the provisions of the Act certificates of registration may be revoked by the Board for cause and after proper hearings as fully set out in Section 22 of the Act. In defining misconduct in the practice of professional engineering as a registered professional engineer the Board will consider among other things the Code of Ethics adopted by the Board and made a part of the application form.

A registrant requesting a new certificate of registration, to replace a certificate, under the provisions of the last paragraph of Section 22 of the Act, shall surrender to the Board, if possible, the original certificate held by him and shall file with his request a sworn affidavit setting out the reason for his request so that the Board records will reflect the reason for its issuance of a new certificate.

Rule XVII—Reconsiderations and Reapplications

Applications are considered as of the date when filed.

Reconsideration does not take into account experience or educational progress subsequent to the date of the application.

When an application is filed at a later date to present experience and/or educational progress subsequent to a previous application it should be accompanied by the usual filing fee of $15.00 and will be considered as a new application.

A rejected applicant may request reconsideration under the sec-

tion in which he applied without additional fees, but additional or explanatory evidence bearing on the record as filed, and of the date filed, should be furnished to the Board.

Thus, an applicant rejected under Section 18 may request reconsideration under Section 18 without an additional fee but such reconsideration will be based upon the applicant's record up to the date the original application was filed.

A request from such an applicant for consideration under any Subsection of Section 12 will require a new application with the usual filing fee of $15.00.

An applicant rejected under any Subsection of Section 12 (a, b, or c) may request reconsideration under any of these subsections without an additional fee but such reconsideration will be based upon the applicant's record up to the date the application was filed. The record subsequent to such date will require a new application with the usual filing fee of $15.00.

An applicant who is registered and applies for reregistration under a different section should submit a new application accompanied by the usual filing fee of $15.00.

Examples

Registered under 18. Asks for registration under 12a or 12b.

Registered under 12c. Asks for registration under 12a because of subsequent graduation from an accredited course.

Registration Statistics

Registrants in good standing	4,503	
Registrants deceased	126	
Registrations incomplete	28	
Certificates expired	968	
Applicants passed to registration	5,625	
Reapplications voted registration	34	
Applicants rejected	786	
Total Applications acted on by Board		6,445
Applications in 12(b) File for examination	42	
Applications incomplete as to references	36	
Applications complete and in hands of Board	32	
Applications pending		110
Applicants deceased (while pending)		5
Total Applications Received		6,560

Texas Engineers Library

By specific authority of the Forty-Seventh Legislature, the Texas Engineers Library was established two years ago by the Texas State Board of Registration for Professional Engineers, and is located on the campus of the Texas A & M College at College Station, Texas. It is operated as a cooperative project of the professional engineers and the college and occupies temporary quarters in the Mechanical Engineering Shops Building. The College has agreed to provide permanent quarters in its next building program.

The Texas Engineers Library is now prepared to lend books to the registered professional engineers of the State. Included in the collection are hundreds of volumes of reference books in addition to general books and text books and a very large file of the back numbers of the leading technical periodicals. Over three hundred technical periodicals are currently received. The books and the materials of this Library are catalogued and classified under author, subject, and title which makes them easily accessible.

It is intended to issue a printed catalogue of the Library's holdings as soon as it can be compiled. In the meantime, the professional engineers of Texas are invited to make use of the Library by correspondence or by visiting and making personal use of the Library facilities. In either case, the staff of the Library will help you with the card catalogue and the numerous technical indexing services.

A photostat machine is available in the Library and reproductions will be furnished at cost. Suggestions as to book titles or any other material that the professional engineers feel that this Library should acquire are invited. Suggestions as to the service that can be rendered will be appreciated. All communications should be addressed to

The Librarian
Texas Engineers Library
A & M College of Texas
College Station, Texas

A Professional Creed

(*Continued from page 9*)

wide professional organization devoted to the common interests and aspirations of all Engineers. It is organized to do for the Engineering Profession what the Medical Association and the Bar Association have done for their respective Professions in increasing prestige, legal protection, public confidence, and professional recognition.

15. For handling local problems of legislation and public relations, *the State Society, with its County Chapters, has been demonstrated to be the most effective form of Professional organization.* The National Society of Professional Engineers is dedicated to extending and strengthening the State Society form of organization.

16. For mutual inspiration, increased effectiveness, and national accomplishment, the State Societies of Professional Engineers need to be united in a national organization. *The National Society of Professional Engineers is the established means for welding together the State Societies in united purpose, effort and achievement, and for extending the professional program on a national scale.*

17. *The Engineering Profession needs to be defined, organized, and integrated.* It is defined by Engineers' Registration Laws. It is organized in the National Society of Professional Engineers, its State Societies, and its County Chapters. It is integrated by perfecting the interlocking of the National, State, and County units so that every member of one shall be a member of all.

18. *Every man is a debtor to his Profession.* The National Society of Professional Engineers, with its State Societies, is consecrated to fostering the ideals and the traditions of the Engineering Profession, to stimulating public service within the Profession, to guarding high standards of professional honor, and to conserving and strengthening public confidence and esteem. Through membership and active participation in this organization, the individual Engineer renders his contribution toward making Engineering a greater, nobler, and more satisfying Profession than he found it.

19. *The most effective and enduring contributions to individual welfare are to be attained through cooperative efforts for the advancement of the Profession as a whole.* The National Society of Professional Engineers, with its State Societies, provides the medium for collective effort for the advancement of the Profession in public service, and in public esteem.

20. *The most far-reaching benefit to our Profession and to all of its members lies in increasing the appreciation and respect of the general public for our Profession.* Our most important activity is in the field of Public Relations. We must bring home to the public, through the press, the radio, public assemblies and publications, the high qualifications of the Engineer, his Professional status, and the outstanding value and supreme importance of his service to modern civilization and human progress.

21. *The Engineering Profession and other legally established Professions have problems of mutual interest in legislation and in public service.* The National Society of Professional Engineers, through its Committee on Professional Relations, is establishing cooperative relations with other Professions.

22. *The Engineering Profession does not seek to interfere with the established rights of practice of any other legally recognized Profession.* At the same time, we have firmly recorded the principle that *we will not allow any other Profession to restrict the rights of practice of the Engineer.*

23. *In legislation, initiative and vigilance are the price of*

(*Continued on page 28*)

A Post War Opportunity

(*Continued from page* 8)

opinion is encouraging. N.S.P.E. and its Associated Professional State Societies now have an opportunity that should be pressed. Twenty-five State Organizations of Professional Engineers afford the basis for a nationwide, dignified appeal for Congressional action.

The resolution passed by the Board of Directors at the St. Louis meeting is as follows:

Re: Federal Public Works

Whereas there is presently pending before the Congress of the United States legislation designed to effect in part the centralization of federal construction under the jurisdiction of a single governmental agency, and

Whereas, the centralization of federal construction is an important step toward unification and simplification of Public Works and therefore socially desirable, economically sound and in the public interest generally now

Therefore be it resolved that the National Society of Professional Engineers in meeting assembled at St. Louis, Missouri, on December 11th, 1943 does hereby endorse and commend the principle of a centralized governmental agency for federal public works, and

Be it further resolved that the National Society of Professional Engineers does hereby recommend and urge the establishment of a Department or other Agency with the status of a cabinet office to effect such centralization and to direct future federal construction.

Congressional Hearings

(*Continued from page* 7)

endeavor. It should not be. States and cities do not want it continued. They are fearful and jealous of their rights. But postwar employment is a national problem that will develop a national emergency if foresight and insurance are not provided before the occurrence.

As an engineer, I freely grant that my point of view may be colored by too close association with public works. However, engineers do come closer to the execution of public works than laymen. I respectfully submit that one would not select bankers to lead armies, merchants to cure plagues, or actors to conduct courts of law. One wonders why sociologists, economists, real estate men and others are so frequently chosen to direct the planning and execution of public works when engineers, architects and contractors are abundantly available. Engineers hope that for the sake of the public welfare competent experienced persons will be in command of the armies to be employed on public works.

In closing, I would direct your attention to the recommendation made on various occasions by the professional engineering societies, State and National, to the effect that the post of Secretary of Public Works be established with Cabinet status. This is a need long overdue. Other nations have corresponding agencies. All federal construction, and through it to a large extent, state and municipal public works could be coordinated and controlled. By providing for expansion of programs when private industry declines and curtailing public works during times of plenty, a long step toward the prevention of mass unemployment would be taken. Today, agencies, federal as well as other, without number plan and execute work with little or no collaboration, either from the view of economics or construction. A reference to the past will indicate beyond question that an active construction industry and widespread employment parallel one another. The construction industry represents from 12% to 15% of the national income during prosperous times. When one realizes that foreign commerce, which receives so much attention and premises so much distress, amounts to between 7% and 8% of the total national income, it can readily be appreciated how important the construction industry is to general prosperity. The establishment of a Department of Public Works with cabinet status is recommended to this Committee with the suggestion that such a proposal is currently opportune as well as urgent.

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WHAT'S NEW

And Coming In The Whirl Of Change

(News from industry — gathered by the publisher)

A NEW 12-INCH HYDRAULIC DREDGE IS NOW BEING PRODUCED BY THE AMERICAN STEEL DREDGE COMPANY INC., FORT WAYNE, INDIANA FOR THE U. S. ARMY ENGINEER CORPS.

Announcement of the new dredge was made by Walter W. Walb, General Manager of the Company, who said that this firm is building a number of these Diesel-powered units for the Engineers.

The new dredges are completely integrated, of very compact design and are fully equipped to operate in isolated locations for long periods. They require no supply service except for fuel oil, lube oil and sustenance for personnel. They are designed to handle sand, clay and silt to a depth of 16 feet and deliver the material through a maximum of 1000 feet of discharge line at water level, or 500 feet of discharge line at 30-foot elevation.

The general specifications call for a main dredging pump with a 14" suction and 12" discharge pipe, powered by an eight-cylinder, 320 HP Diesel engine; a main power plant of an 85 KW Diesel electric generator set, and an auxiliary Diesel power plant of 6 KW.

The 104′ x 29′ x 6" prefabricated steel hull is an adaptation of the K-D bolted sectional barge that the company has been producing for the Army Transportation Corps for more than a year. The bolted steel hull enables shipment of the complete dredge, on standard railroad cars and as hold cargo to overseas destinations. Even for this large dredge no deck space is needed for its transportation. No fabrication is necessary at the site of erection. Its pre-fabricated steel plates and all other panels and sections join easily, and when the last bolt is in, the hulls are completely watertight. When the dredge has served its purpose in one location, it is possible to dismantle it and ship it to another site. Complete manuals on assembly, operation and maintenance are provided with each dredge so that personnel, who perhaps never saw a dredge before, can assemble them and have them in operation in an amazingly short time. A wooden deck house enclosing all machinery is also pre-fabricated to facilitate shipment. The deck house is approximately 72′ x 20′ x 10′-8".

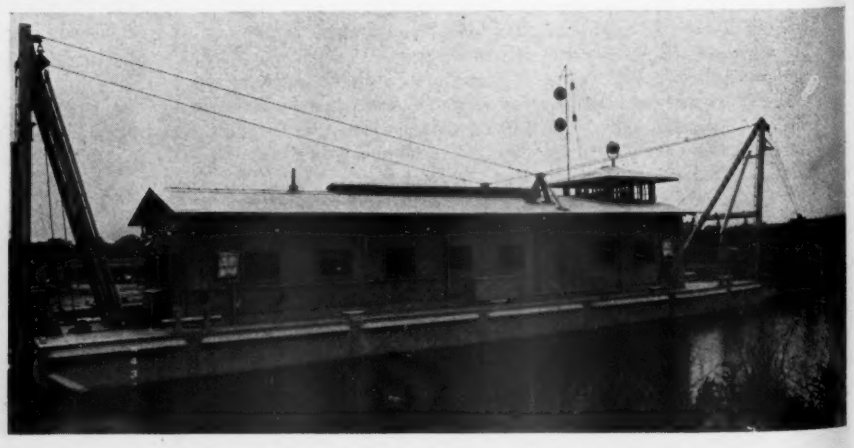
The dredge has a 36′ digging ladder provided with an adequate margin of overload capacity, and fitted with interchangeable cutter heads to meet the changing character of material encountered on different projects. The unit is equipped with a five-drum hoist which enables extremely high rope pull at low speeds due to special compound gearing. Cone friction clutches are used and a drum switch controlling the hoist makes its operation extremely flexible.

The American Steel Dredge Company has been making this general type unit for more than 40 years in sizes up to 20" and designed for all-electric or steam power. Its equipment is in use on dredging operations all over the world: shore fills on lakes and rivers, drainage projects, channel and canal improvements, cleaning and enlarging reservoirs, building dams, embankments, levees, hydraulic mining and recovery operations.

In addition to the construction of hydraulic dredges, the plant of the American Steel Dredge Company Inc. has been turning out K.D. sectional steel barges for liquid and dry cargo, crane barges and floating machine shops for the Armed Forces.

The Custom Department of the Company has been producing engine bases, gas-producer equipment, heavy valves and other intricate weldments for many different industrial plants.

Mr. Walb states that some attention to postwar production has recently been possible and that his company plans to utilize



Starboard side view of 12" Hydraulic Dredge built by American Steel Dredge Co. Fort Wayne, Indiana

their plant, as in the past, for the production of dredging equipment and sectional steel barges, hulls and work-boats.

Sperry Develops Gyrosyn Compass

In the Gyrosyn Compass, engineers have succeeded in combining the functions of a directional gyro and a magnetic compass and the result makes not only for greater accuracy in navigation but also greatly lightens and simplifies the duties of the plane's pilot. This is in part because the Gyrosyn Compass allows for deadbeat indication and accurate magnetic headings without northerly turning error or the necessity of resetting. Further, in military aircraft, the usefulness of the standard magnetic compass in the cockpit is diminished because of disturbances in the earth's magnetic field due to proximity of electrical apparatus and armor plate. The new compass avoids the effect of these disturbances.

The Sperry Gyrosyn Compass is an electrically driven directional gyro precisely controlled by a Flux Valve. The latter is the "stand in" for a magnetic compass because it detects the direction of the earth's magnetic field. Small, hermetically sealed and with no rotating parts, the Flux Valve may be rigidly mounted in a wing tip safely removed from the disturbing influences of the cockpit.

The Gyrosyn Compass is installed on the pilot's instrument panel or at the navigator's station. Up to six repeaters for remote indications may be used with the new Sperry Compass. The Gyrosyn Compass with two repeaters weighs less than twelve pounds. Provision is also made for furnishing azimuth stabilization as required by any other equipment.

When rough air momentarily swings the Flux Valve out of the horizontal, the resultant fluctuating signals might be expected to register as error on the Gyrosyn indicator. That this does NOT occur is due to the fact that the directional gyro effectively integrates all short period disturbances and oscillations and the deadbeat accurate indication for the pilot continues. In a prolonged turn, erroneous signals may show in part on the indicator but they disappear without oscillation and without any corrective measures on the part of the pilot as soon as the plane has been returned to straight flight.

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(*Continued from page* 24)

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